CALIFORNIA STATE UNIVERSITY, FULLERTON
Department of Elementary and Bilingual Education
"Microcomputers in the Elementary Classroom"
EDELM 415 -- Fall 1992
Instructor: Kevin Rafferty, M.S.

The philosophy of the School of Human Development and Community Service states: "We believe that knowledge is evolving and socially constructed and that learning is produced through an interaction of different perspectives that enable students to connect education to their own experience."

Reflecting this philosophy, the focus of the Department of Elementary and Bilingual Education is to prepare humane, informed decision makers for diverse educational environments. We are committed to a philosophy of preparing educational leaders and decision makers through a course of study which bases practice upon knowledge and current research in curriculum and instruction. We develop students as lifelong learners, reflective practitioners, and change agents as they influence decision making in schools and communities.

Course Description:

EDELM 415 MICROCOMPUTERS IN THE ELEMENTARY CLASSROOM
Prerequisite: teaching credential or candidacy for credential.
Use of microcomputers in elementary classroom. Development of computer related instructional materials for elementary schools. Evaluation of programs/equipment suitable for elementary children. Examination of issues involved in microcomputers in elementary schools.

Section 1 Code 10614U Monday 7 - 10 PM $6 Fee 3 Units

Required Materials:

Lockhard, J., Abrams, P., and Many, W. (1990). Microcomputers for Educators (Second Edition). Glenview, IL: Scott, Foresman/Little, Brown Higher Education.

Microcomputers in the Elementary Classroom (1989). Fullerton, CA: California State University.
@ CHAPMAN/STATE COLLEGE - COLLEGE COPY

** Five 5 and 1/4 inch diskettes (single or double-sided, double density).
** One scantron (test form 882). - midterm
** One 9 x 12 self-addressed-stamped-envelope.

EDELM 415 -- Fall 1992
Instructor: Rafferty

Recommended Readings:

Beaver, J. (1992). "Using Computer Power to Improve Your Teaching." The Computing Teacher, 19 (5), 5-9.

Bialo, E., and Sivin, J. (1990). "Report on the Effectiveness of Microcomputers in Schools". Software Publishers Association, 1-22.

Colvin, L. (1989). "An Overview of U.S. Trends in Educational Software Design." The Computing Teacher, 16 (5), 24-28.

Dockterman, D. (1989). Teaching in a One-Computer Classroom. Boston, MA: Tom Snyder Productions.

Kurshan, B. (1990). "Educational Telecommunications Connections for the Classroom -- Part 1." The Computing Teacher, 17 (6), 30-35.

Kurshan, B. (1990). "Educational Telecommunications Connections for the Classroom -- Part 2." The Computing Teacher, 17 (7), 51-53.

Niess, M. (1990). "Preparing Computer Using Educators in a New Decade." The Computing Teacher, 18 (3), 10-15.

Polin, L. (1991). "Profiles of Accomplished Computer-Using Educators." The Computing Teacher, 19 (3), 5-7.

Schrum, L., Carton, K., and Pinney, S. (1988). "Today's Tools." The Computing Teacher, 15 (8), 31-35.

Sheingold, K., and Hadley, M. (1990). "Accomplished Teachers: Integrating Computers into Classroom Practice." Center for Technology in Education, Bank Street College of Education.

Wiburg, K. (1989). "Does Programming Deserve a Place in the School Curriculum?" The Computing Teacher, 17 (2), 8-11.

Yoder, S. (1991). "Logo for Teachers." The Computing Teacher, 18 (8), 33-34.

Recommended Viewing:

Computer Chronicles	Friday	6:00 PM	KOCE-TV	CH. 50
MacTV	Monday	6:30 PM	ME/U	(Mind Extension University,
	Saturday	6:30 PM	ME/U	check for local cable channel)
	(begins September 7)			
New Literacy	Tuesday	6:30 AM	KOCE-TV	CH. 50
	Tuesday	7:00 AM	KOCE-TV	CH. 50
	(begins September 15)			

CALIFORNIA STATE UNIVERSITY, FULLERTON
Department of Elementary and Bilingual Education
EDELM 415 -- Tentative Schedule -- Fall 1992

Date:	Topic:	Assignment:
31 August	Introduction Application of Microcomputers Keyboarding	Apple Tour Chapter 2
7 September	Labor Day Holiday	No Class!!!
14 September	CAI/CMI Evaluating Software	Chapter 8 Chapter 10
21 September	History Utility Software Interactive Software/Simulations	Chapter 1 Chapter 6 Colvin article
28 September	TIC Project MECC Software	Chapter 7 EVALUATION DUE
5 October	Word Processing	Chapter 3 Chapter 9
12 October	Word Processing Prompted Writing Computer Languages	Chapter 11 Chapter 13
19 October	MIDTERM EXAM	
26 October	Logo	Chapter 12 Dockterman article
2 November	Teacher Utilities Grade Books Logo	Chapter 5

Tentative Schedule (continued)
EDELM 415 -- Fall 1992

9 November	Telecommunications Logo	Kurshan articles Schrum article
16 November	Databases Desktop Publishing Logo	Chapter 4 Polin article Sheingold article
23 November	Research Issues and Findings Computer Literacy Selecting Hardware	Chapter 15 Chapter 16 Beaver article LOGO PROJECT DUE
30 November	Critical Issues Organizational Strategies	Chapter 17 Chapter 18 NOTEBOOK DUE MODEM DUE
7 December	Project Presentations	CURRICULUM PROJECT DUE
14 December	FINAL EXAM (7:30 - 9:20 p.m.)	

EDELM 415 NOTEBOOK REQUIREMENTS

Each student must turn in a notebook. As we cover different areas in class, you will want to do notebook assignments that pertain to that topic.. Your notebook must be done on a word processor, except for items printed directly from another software program. Print a cover for your notebook. Include a Table of Contents with the main headings listed and organize your work under those headings. The following is a description of the items required to be in your notebook.

1. COMPUTER RESOURCES

*** List five local computer stores (with names, addresses, and phone numbers) that carry educational software.
*** List at least three EDUCATIONAL computer magazines.
*** List at least five CONSUMER computer magazines (different titles from above).
*** List at least three regular informational television shows that feature computers as their main subject.

2. WORD PROCESSING

*** Write a letter, an assignment, or other document that you would use in a classroom using a word processor. Identify the type of computer and word processing software you utilized.
*** Use FrEdWriter to write and print out a prompted lesson that you could use with students in an elementary classroom. (Write responses and print both with and without the prompts.)

3. TEACHER UTILITIES

*** Use Print Shop to design two of the following: sign, card, letterhead, or banner.
*** Use Crossword Magic or a similar program to create a crossword puzzle that you could use with your students. (Print puzzle, clues, and key.)
*** Create an original time-line with Timeliner.
*** Create a newsletter with a desktop publishing program. (Children's Writing and Publishing Center, Newsroom, or other.)
*** Create an original certificate using Certificate Maker.

NOTEBOOK REQUIREMENTS (continued)

4. DATA BASES

*** Use Friendly Filer or another data base program to create a sample data base that you could use with your students. The data base must contain at least five records and four fields. Include category names in a label-style print-out, with a blank space separating each record.

Sample Data Base Format:

Student Name: Talley, Cynthia
Gender: Female
Classroom Teacher: Mrs. Allen
Grade Level: Kindergarten

(This is one record with four fields of information)

EDELM 415
FALL 1992

Name: JOE BUSTILLOS

Logo Project: A

Curriculum Project: A

Final Examination: A+ (TOPS IN CLASS!)

Course Grade: A

Enjoyed having you
in class.
Best wishes,
Kevin

NOTEBOOK REQUIREMENTS

✓ Cover
? Table of Contents

1. Computer Resources

✓ Five local computer stores (with names, addresses, and telephone numbers) that carry educational software.
✓ Three EDUCATIONAL computer magazines
✓ Five CONSUMER magazines
✓ Three TV shows with computers as their main subject

2. Word Processing

✓ Word-processing document (identify computer and software program)
✓ FrEdWriter prompted lesson (written responses, printed both with and without the prompts)

3. Teacher Utilities

✓ Print Shop (two designs)
✓ Crossword Magic (print puzzle, clues, and key)
✓ Timeliner
✓ Desktop publishing program
✓ Certificate Maker

4. Data Base

✓ Label-style printout of five records with four fields (space separating each record)

Notebook Grade: A-

Nice Job! Great graphics!

JOE BUSTILLOS

MICROCOMPUTERS
IN THE
ELEMENTARY CLASSROOM

EDELM 415

CALIFORNIA STATE UNIVERSITY,
FULLERTON

INTRODUCTION

This manual is designed to facilitate students' work in EDELM 415, MICROCOMPUTERS IN THE ELEMENTARY CLASSROOM. It is not all inclusive, but hopefully it will supplement the basic text and other readings.

Several people have contributed to this guide and their articles or suggestions are gratefully acknowledged. Among them are: Tony Anderson and the Fullerton School District, B.J. Barnes, Karen Bustrum, Greg Butler, Becky Czerwinski, Millie Glenn, Larry Hannah, Shirley Hill, Pat Kreig, Judy Lieb, Ruth Yopp-Edwards, Don Pease, Robert Price, Harriet Schultz and Neal Schultz.

Students, young and old alike, are encouraged to share information with others as they use technology to increase their understanding of our changing society.

415 Instructors

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MICROCOMPUTERS IN THE ELEMENTARY CLASSROOM
EDELM 415

OBJECTIVES

At the completion of this course, students will:

1. operate a standard microcomputer;
2. describe various applications of microcomputers in the elementary classroom;
3. evaluate existing computer programs (software) designed for elementary age children to determine quality and applicability;
4. utilize a word-processing program
5. identify criteria to evaluate existing microcomputers and accessories (hardware) to determine quality and applicability in elementary schools;
6. design and write simple programs (procedures) in Logo;
7. develop computer related instructional activities appropriate for elementary age children;
8. discuss the critical issues related to microcomputers and the elementary classroom; and
9. identify personal abilities to use a microcomputer in the elementary classroom.

COURSE TOPICS

1. Introduction
   - 1.1 The historical development of computer/microcomputer technology
   - 1.2 The information processing revolution: its impact on society, the schools, the teachers, and the students
   - 1.3 Introduction to microcomputers in the elementary classroom
2. Overview of applications of microcomputers in the elementary classroom

2.1 Computer assisted instruction (CAI) - computer applications applied to traditional teaching methods

2.2 Integrating technology into the curriculum (TIC) to enhance learning

2.3 Microcomputer as a problem solving tool- for example: word processor, calculator, and management tool

2.4 Object of instruction - computer awareness/computer literacy, programming skills, using microcomputer as tutee

2.5 Computer managed instruction - microcomputer to facilitate test construction, individualization of learning, and record keeping

2.6 Research questions raised in utilizing microcomputers in the instructional program

3. Specific applications of microcomputer in the classroom

3.1 Computer Assisted Instruction (CAI)

3.1.1 Research on CAI in elementary schools
3.1.2 Tutorial, drill and practice, and simulation
3.1.3 Research on CAI in elementary schools
3.1.4 Exemplary CAI programs
3.1.5 Typical CAI programs
3.1.6 Cost-effective issues
3.1.7 Instructional effectiveness of CAI programs and various subjects of the elementary school

3.2 Microcomputer as a problem solving tool

3.2.1 Word processing for students and teachers; programs, strategies, and research studies
3.2.2 Calculator: relationship to mathematics program and research studies
3.2.3 Simulations: presentations of subject matter that is difficult or impractical to demonstrate in classroom
3.2.4 Inquiry programs: uses of various data bases in solving problems in different subject areas
3.2.5 Telecomputing for students and teachers
3.2.6 Range of uses of microcomputers in our society

3.3 Microcomputer as object of instruction to develop: computer awareness, computer literacy, and career potential

- 3.3.1 Nature of microcomputer system components
- 3.3.2 Appropriate programming skills for elementary age children
- 3.3.3 Identification, use, and evaluation of commercially available programs to teach children programming skills
- 3.3.4 Applications and limitations of microcomputers
- 3.3.5 Career opportunities associated with microcomputer skills
- 3.3.6 Microcomputer as a device to enhance intellectual development of children: problem solving skills and thinking (e.g. Logo)

3.4 Computer managed instruction

- 3.4.1 Range of applications for teacher
- 3.4.2 Selection, use, and evaluation of currently available programs
- 3.4.3 Issues involved in selecting classroom management programs
- 3.4.4 Problems involved in record keeping with microcomputers

3.5 Research, curricular, and instructional issues involved in utilizing microcomputers in the elementary classroom

4. Processes for utilizing microcomputers

4.1 Logo

- 4.1.1 Authors; purposes in developing Logo
- 4.1.2 Learning environments with Logo
- 4.1.3 Relation of programmable toys to Logo
- 4.1.4 Turtle graphics
- 4.1.5 Strategies for using Logo with children
- 4.1.6 Logo and thinking
- 4.1.7 Logo and exceptional children
- 4.1.8 Logo Writer
- 4.1.9 Evaluating Logo experiences
- 4.1.10 Research studies on Logo

4.2 Curriculum Development

    4.2.1 Integrating technology into curriculum
    4.2.2 Developing special strands for the curriculum: computer awareness, word processing, programming, developing data bases, analyzing data, and telecomputing

5. Evaluating software programs for elementary schools

    5.1 Development of appropriate criteria for selecting and evaluating software programs

    5.2 Review of existing criteria for selecting and evaluating software programs

    5.3 Evaluation of existing commercial and teacher-made software for various subject areas of elementary schools

6. Evaluating existing hardware available for elementary schools

    6.1 Major criteria to consider in selecting hardware
    6.2 Issues of compatibility between software and hardware
    6.3 Advantages/disadvantages of using network

7. Critical issues in using microcomputers

    7.1 Research questions which need to be addressed

    7.2 Issues involved in changing delivery system of instruction

    7.3 Problems involved in introducing new technology into the schools: "band-wagon" or computerphobia of teachers vs. effective programs for children

    7.4 Societal implications of children who have access to computers vs children with no access

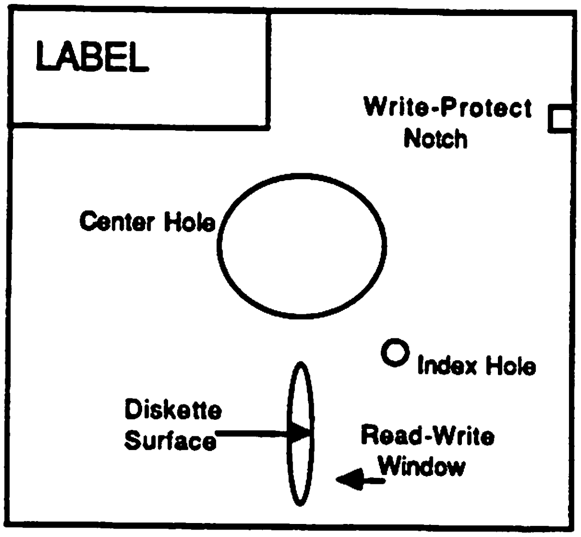
    7.5 Microcomputers and arcade games

    7.6 Telecomputing and microcomputers: possibilities for student learning

    7.7 Future impact of microcomputers on elementary instructional programs including Artificial Intelligence

8. Sharing instructional activities of students
    8.1 Demonstration of individual student projects
    8.2 Evaluation of projects by predetermined criteria

THE APPLE DISKETTE



How to Handle a Floppy Disk

DO'S	DON'TS
Hold the disk by the label.	Touch the disk surface.
Insert the disk carefully.	Force the disk into the drive.
Keep the disk in the sleeve when not in use.	Bend or fold the disk
Keep in a place where it is in a moderate temperature range (50 to 125 degrees F).	Write on the label with a pen. (Do use a felt tip pen.)
Store in a vertical position.	Place the disk near a magnet or magnetic field.
	Use a paper clip on the disk.

TAKING CARE OF YOUR DISKETTES

A. Label them appropriately.

B. When necessary to write on a 5.25 " diskette, use soft felt-tipped pen to protect the diskette.

C. Keep them in sleeves when possible.

USING YOUR DISKETTES

Once you diskettes have been initialized, they are ready for use.

A. Inserting disks in disk drives

1 Hold disk with label up between thumb and forefinger.

2. Open disk drive door carefully, noiselessly!

3. Slide disk into drive easily, all the way-- don't force. If it doesn't go in easily, start over! By forcing matters you can destroy your disk and damage the disk drive.

4. When disk is in drive, carefully close the door.

B. Removing disk from drive

1. Open door carefully.

2. Take disk by label, remove from drive, and place into sleeve.

3. Practice inserting and removing disk until you feel comfortable and until you can do the entire process quietly.

Take the same care of your own equipment and help children learn these behaviors.

EVALUATING SOFTWARE

Shirley Hill

Use the following section to prepare your software evaluation.

GENERAL INFORMATION ON SOFTWARE PROGRAM

Name of program:

Publisher of program:

Date of publication:

Cost of program:

Hardware/software needed to utilize program:

Source(s) to obtain program:

General description of program: (includes level, objectives, relation to instructional program)

Personal response to program: (includes whether you would use the program or purchase the program and why)

The following is to help you prepare your evaluation.

DETAILED CRITERIA TO CONSIDER IN EVALUATION

1. Educational Goals

   - Does the program support curricular and educational objectives identified by the district or individual teacher or learner?
   - Is the activity appropriate to and integrated into the concepts to be taught?
   - Does the computer enhance this activity or is another medium such as print or observation more suitable?

2. Student Role

   - Who is in control, the student or the machine?
   - Does the program allow the student to build on already developed skills?

- Does the student determine the pace of the instruction?
- Does the student have sufficient time to read all the information on the screen?
- Is the student provided with concise information about the task to be performed?
- Can the student review or recall to the screen information previously given?
- Can students interact with the ideas or with each other during the program?
- What kind of feedback is given for a correct or incorrect response: Do these responses vary? Are these responses in keeping with principles of effective learning?

3. Teacher Role

- Does the documentation provide the teacher with precise information regarding her/his role?
- Does the documentation provide the teacher with follow-up activities?
- Does the program include information about diagnosis and prescription of students after they use the program?

4. Program

- Are there stated objectives for the program?
- Is there opportunity for the student to master the program?
- Is there branching in the program when the student makes an error?

5. Content/Format/Graphics

- Is the layout on the screen clean and uncluttered?
- Is the learner required to do something frequently?
- Are color, sound, and graphic capabilities used appropriately?
- Can the student review or recall to the screen information previously given?
- Is the content accurate?
- Is the text material printed on the screen (size, spacing, color) so that it has visual appeal?

- Is a typed response requested? appropriate?
- Does the program allow for some misspelling when requesting a typed answer?

6. Evaluation Data

- Does the documentation provide data on previous use of this material with students?
- Does the documentation provide any names of consultants to utilize when problems arise?
- Does the program offer the teacher diagnostic/prescriptive information about the student(s) using it?
- Does the program provide data on students as they are using the program

INTRODUCTION to FrEdWriter 4.4

FrEdWriter is a word processing program which allows for prompted writing, a feature that is very useful for teachers. This document will help you to get started using FrEdWriter. Follow the directions given.

BACK-UP COPY

The first thing you need to do when you get your first copy of FrEd is to make a back-up copy immediately. The Main Program Menu appears on the screen:

1. Read This First
2. Start FrEdWriter
3. Set Date and Time
4. Format a New Disk
5. Copy a Disk
6. View, Delete, or Copy Document
7. Configure Printer for Underline

1. Format a New Disk. Choose #4 on the menu to format a new disk. FrEdWriter is in ProDos, so disks need to be formated for that operating system. Follow the screen directions to format a blank disk. You will need to give each disk a name, like "DATA", or whatever you wish. (You will need a second disk drive to do this easily.)

   While you are formatting a disk for FrEdWriter, format one or two extras to use as data disks for any files you may want to save. The FrEd program disk is full and will not allow you to save any files on it.

2. Copy a Disk. After you have formatted your disks, copy FrEd onto one of them so you have a backup. Choose option #5 from the menu. Again the screen prompts you. Press RETURN to choose the default values. You MUST have a second disk drive for this option.

PRINT OUT DOCUMENTATION

The second thing you need to do is enter FrEdWriter and load each of the four document files (A, B, C, D) one at a time and print them out. When this is completed, you will have your own copy of the FrEdWriter Owner's Manual. Follow these steps:

1. Press #2 on the Main Program Menu, then 8 for 80 columns (unless you only have a 40 column screen.)
2. Press the RETURN key 3 times to move through the credit screens. You are now in FrEd and it should say so at the top of your screen.
3. Press the CONTROL key and hold down the L at the same time. Then press the QUESTION MARK key (?) and the RETURN key to catalog the disk. (Remember, you must use the shift key to get a QUESTION MARK.)
4. You are now looking at the names of the files on the program disk.
5. Enter "DOC.A" (do not type the quotes) and then press RETURN.
6. You are now looking at the end of the DOC.A file. Press the CONTROL key and hold down the B key to go the the beginning.
7. What you are looking at is the Doc. A file. If the paragraph makers bother you, press CONTROL R to turn them off.

(continued)

8. Press the CONTROL key and the P key at the same time to enter the PRINT MENU. In this menu, you can move the highlighting by using the arrow keys. To activate a change, press RETURN. The 5 items you must check before you print are identified below the menu.

```
PRINT THIS DOCUMENT
          LINE LENGTH              65 LETTERS
          LINE SPACING             SINGLE
          LEFT MARGIN              5 LETTERS
          PAGE LENGTH              66 LINES
          TOP MARGIN               0 LINES
          BOTTOM MARGINS           10 LINES
          FORM FEED                NO
          LINE FEED                NO
          FIRST PAGE NUMBER        1
          PRINT PAGES              ALL
          PRINT PROMPTS            NO
          UNDERLINE TOKEN          \
          PRINT DESTINATION        PRINTER
          TOP LIN
          --PAGE #--
```

a. Highlight LEFT MARGIN and press RETURN. Now enter 10 and press RETURN again. Your margin is now set so you can put your printed material in a binder if you would like.

b. FORM FEED is a toggle (like a light switch) and can be changed if your printer doesn't move the paper up after the first page is printed.

c. LINE FEED is also a toggle and can be changed if it prints the entire first page on one line.

d. PRINT PROMPTS should be left on NO for the printing of your documentation.

e. PRINT DESTINATION should read PRINTER and <u>not</u> SCREEN.

9. When the printing of DOC.A is complete, press CONTROL N, yes, and the RETURN key to erase the file off of the screen.

10. To load other documents you wish to print, follow the same procedure (press the CONTROL key, the L key and the name of the document). Use ? if you cannot remember the name.

11. When you have finished printing out the documentation, press CONTROL Q to get back to the Main Menu.

STARTING FREDWRITER

Now you are ready to begin using FrEd. At the Main Menu, you have these choices:

1. Read This First
2. Start FrEdWriter
3. Set Date and Time
4. Format a New Disk
5. Copy a Disk
6. View, Delete, or Copy Document
7. Configure Printer for Underline

1 Set Date and Time. It is a good idea to set the date and time so you will know when files were created or changed. This often comes in handy. If your computer does not have a clock, you will have to reset the time each time you boot FrEd. Choose option #3 and follow the prompts.

2. Start FrEdWriter. Choose option #2 to begin FrEd. If you have an Apple //c , //e , or //gs with an 80 column card, you will be asked if you wish 40 or 80 columns. Press 4 if you want to see larger letters on the screen (printing will be the same size). Otherwise press 8. Press RETURN three times to pass the credits screens on FrEd. These screens give you information about using FrEd on the Apple //+ and a Spanish version. You will see a highlighted bar across the top of the page with <T> on it, along with the size and "FrEdWriter." Anything in angled brackets (< >) in FrEd means to press the CONTROL key first Then, while you are still holding down the CONTROL key, press the letter in the < >. Pressing CONTROL and T will give you this menu:
(continued)

<T> = Show this TUTOR
<P> = PRINT this document
<S> = SAVE from memory to disk
<L> = LOAD from disk to memory
<F> = FIND words
<D> = DELETE character under cursor
<W> = Change page WIDTH
<C> = Use with arrows to CHANGE CASE
<R> = REVEAL/Hide Paragraph markers
<B> = Jump to text BEGINNING
<E> = Jump to text END
<N> = NEW page (erase memory)
<X> = Center a line
<Q> = QUIT FrEdWriter (return to Main Menu)
<V> = Enter Printer Control Characters
ESC = Change the page top line
OA-S = Save file with <CR> at line ends

Anytime you need help, <T> (CONTROL T) will give you this menu. NOTE when you quit FrEd, make sure that you have saved anything you worked on or your work will be *lost*!

3. Changing the Default Drive. When you have data in drive 2, you must tell FrEd to change the default drive to 2. To do this, type either <S> (CONTROL S) or <L> ,(CONTROL L). At the bottom of the page you will see <S>ave (?)=Catalog):.

Type in: ?,D2

and press RETURN. This will change the default drive to drive 2 for the remainder of your work session. You will have to do this each time you boot the program. Now when you load or save files, data will be read from or stored to drive 2.

(To save to the 5.25 " drive on the //gs when the program isin the 3.5" drive:

Type in: ? S6D1)

UNDERLINING AND OTHER PRINTER OPTIONS IN FREDWRITER

Option 7 on the Main Menu allows you to configure (set-up) your printer so that it will underline words that are preceeded and followed by a slash (\ ) You will need to know the control codes for your printer that allow for the beginning and ending of underlining.

For the Imagewriter printers in our lab, the codes are: ESC X to begin and ESC Y to end. However, FrEdWriter wants the decimal equivalent of these hex codes.

ESC X = 27 88 and EXC Y = 27 89

These are the codes that you would enter in the underline configuration section.

You will be prompted for each character string. Other printer functions such as boldface or italics can also be used in FrEd if you insert their control characters in section 7. FrEd can only perform one of these functions at at time. You cannot have underline and boldface operational together.

PROMPTED WRITING

The prompted writing feature of FrEd allows teachers to create lessons on the computer, in much the same manner as an authoring language. The prompt mode is easy to use. You can set up lessons in any subject area from Language Arts to Science. There are many lessons already created on FrEd and available from CUE Softswap. FrEd Tips, a disk also available from CUE Softswap, gives more suggestions on how to use this feature of FrEdWriter.

1. Creating a Prompt. To construct a prompt box, press Open Apple P. This enters the prompt box mode. Nothing will happen on the screen yet, so do not keep pressing Open Apple P or continue to hold it down, or you will not know if you are in the prompt mode or not. (In FrEd Version 4.4, the cursor flashes quickly when you are in prompt mode.) Then press Open Apple A to print the top prompt frame line. RETURN will jump to the next line and you can begin typing your prompt. It is nice to space your prompt so that it is easily read. An extra RETURN also helps.

   Create prompts in 40 columns so files can be shared with other FrEd users. Set the text width to 38 with the <W> (CONTROL W) command.

   Open Apple Z enters the bottom line of the prompt and exits the prompt mode.

   The sequence for constructing a prompt is:

   Open Apple P = Enters Prompt mode
   Open Apple A = Prints top line
   Return = Jumps to next line, begin prompt
   Open Apple Z = Enter bottom line, exit prompt mode

2. Editing a Prompt Box. Open Apple P enters the prompt mode. You can now move the cursor and edit the text. Open Apple P exits the prompt mode.

(continued)

3. Here are some hints for using prompts.

   a. Arrow keys will 'beep' as the cursor passes through a prompt box. Pressing the Open Apple key with the arrow key will quiet the 'beep.'

   b. Locking a prompted writing file will prevent changes to or deletion of the file.

   c. Students can print their writing with or without the prompts by choosing 'NO' in the print menu when asked if the prompts are to beprinted. Writing can be previewed with the prompts by printing the text to the screen. Prompts can be permanently deleted from the text by pressing Open Apple P and then Open Apple R. You will be asked to confirm your choice.

   d. When saving your prompted lessons, put '.PROMPT' or some other indicator in the name, so you will be able to distinguish the prompts from other files.

Have fun with FrEdWriter!!

Ideas for this document came from:
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PRINTER CODES FOR THE APPLE IMAGEWRITER II

Many times you will ifnd that you must know some control codes of your printer to be able to print in special ways. This list of control codes will help you do that. You may use them with FrEdWriter or many other word processing programs.

Here's what the codes below mean: Angles brackets (<>) around a character means you must press the CONTROL key along with the character. For example, <B> means press CONTROL and B. ESC means press the ESC key along with the character. More printer codes may be found in the PRINTERS documentation on the FrEdWriter Disk (with Frilless FrEd).

FEATURE	ON	OFF
extended (9cpi)	ESC n	other font
pica (10 cpi)	ESC N	other font
elite (12 cpi)	ESC E	other font
semi-cond. (13.4 cpi)	ESC e	other font
condensed 1 (15 cpi)	ESC q	other font
condensed 2 (17 cpi)	ESC Q	other font
wide (many lines)	<N>	<O>
proportional (pica)	ESC p	other font
proportional (elite)	ESC P	other font
Near Letter Quality	ESC a 2	ESC a 0
half-high (use with condensed)	ESC w	ESC W
underline	ESC X	ESC Y
bold face	ESC !	ESC "
sub-script	ESC y	ESC z
super-script	ESC x	ESC z
one way print	ESC >	ESC <
Draft Quality	ESC a 1	ESC a 0
1/6 " line spacing	ESC A	other line spacing
1/8" line spacing	ESC B	other line spacint
7/72" line spacing	ESC T 14	other line spacing

DECIMAL CONVERSION TABLE

The printer codes listed in the tables below are defined as equivalent keystrokes. The CONFIG program on FrEdWriter requires that you enter the codes as decimal equivalents. The conversion table here will allow you to make the decimal conversion from the printer code table for your printer.

KEY	DECIMAL	KEY	DECIMAL	KEY	DECIMAL	KEY	DECIMAL
<@>	0	<SPC>	32	@	64	`	96
<A>	1	!	33	A	65	a	97
<B>	2	"	34	B	66	b	98
<C>	3	#	35	C	67	c	99
<D>	4	$	36	D	68	d	100
<E>	5	%	37	E	69	e	101
<F>	6	&	38	F	70	f	102
<G>	7	'	39	G	71	g	103
<H>	8	(	40	H	72	h	104
<I>	9	)	41	I	73	i	105
<J>	10	*	42	J	74	j	106
<K>	11	+	43	K	75	k	107
<L>	12	,	44	L	76	l	108
<M>	13	-	45	M	77		
	m	109					
<N>	14	.	46	N	78	n	110
<O>	15	/	47	O	79	o	111
<P>	16	0	48	P	80	p	112
<Q>	17	1	49	Q	81	q	113
<R>	18	2	50	R	82	r	114
<S>	19	3	51	S	83	s	115
<T>	20	4	52	T	84	t	116
<U>	21	5	53	U	85	u	117
<V>	22	6	54	V	86	v	118
<W>	23	7	55	W	87		
	w	119					
<X>	24	8	56	X	88	x	120
<Y>	25	9	57	Y	89	y	121
<Z>	26	:	58	Z	90	z	122
ESC	27	;	59	[	91	{	123
<\>	28	<	60	\	92	|	124
<]>	29	=	61	]	93	}	125
<^>	30	>	62	^	94	~	126
<_>	31	?	63	_	95	DEL	127

USING THE SYSTEM UTILITIES DISK ON THE APPLE //GS

Judy Lieb

The quickest way to learn how to use the System Utilities Disk on the //GS is to start using it. This disk will allow you to copy disks, format disks, check disk space, and give new names to disks. It is mainly used fo copying disks. This program will not copy disks that have copy protection on them. It is illegal to copy disks unless they are public domain disks or say somewhere on the disk that they can be shared.

Here is some terminology that will help you understand the System Utilities Disk Don't worry if this all sounds a bit confusing at first; as you go along you will begins to understand the terms. This list is so you will have an idea as to what the terms mean when you see them on the screen.

VOLUME	The place where data is stored. On the 3.5-inch disks and the 5.25-inch disks, volume is just another word for disk. If a program asks for the volume name, just type in the name of the disk.
FILE	A body of information stored by name on the disk. It could be a document, an application, or a subdirectory.
SUBDIRECTORY	A file that points to the locations of other files on a disk.
SLOT	The slot inside the computer containing your disk drive's controller card.
PATHNAME	The complete name of a file, starting with the name of the disk it's on, the subdirectory it's in and the filename. A pathname starts wit a slash, and each component of the name is separated by a slash. The pathname for a file called TEST in a subdirectory called CLASS on a a disk called CSUF.415 would look like this: /CSUF.415/CLASS/TEST ProDos is the only Apple// operating system that supports the use of subdirectories. If you are using a DOS 3.3 or Pascal disks, you cannot find files by pathname.

If you ever have any questions while using the System Utilities Disk, press down the Open Apple Key while you press the?

STARTING UP THE DISK

The System Utilities Disk has several programs on it. We are going to take a look at two of them, the **DeskTop and System Utilities.** First, we will take a look at the System Utilities which allows you to easily perform many file maintenance tasks.

USING THE SYSTEM UTILITIES

This part of the System Disk also allows you to perform file functions, and has a couple of features not found on the Desktop. You should know how to use either, depending on your needs.

Starting Up Sys.Utils.

Insert the System Utilities Disk and highlight *Sys.Utils* by clicking the down arrow on the side scroll bar until *Sys.Utils* appears in the box. Then point using the mouse and double click on *Sys.Utils* , you get the next screen. Then double click on Sysutil.System. You are now in the system utilities section . The screen will look like this:

```
                                                  MAIN MENU
                                                  ESC: QUIT
----------------------------------------------------------------
WORK ON ENTIRE DISKS              WORK ON INDIVIDUAL FILES

   Catalog a Disk                    Copy Files
   List Volumes                      Delete Files
   Duplicate Disk                    Rename Files
   Format a Disk                     Lock/Unlock Files
   Other Options

ABOUT //GS SYSTEM UTILITIES       WORK ON PRODOS DISKS ONLY

   QUIT                              Create a Subdirectory
                                        Set Prefix
                                        Rename Volumes


Press _________ to select an option.
Then press return

----------------------------------------------------------------
FOR HELP: PRESS    ? (question mark key)
```

Option Descriptions

Catalog a Disk	This option gives you a list of all the files on a disk. It also tells you the disk's operating system, the disk's name or number, each file's type, each file's size, the number of files on the disk, the number of blocks or sectors taken up by the files, and how many blocks or sectors are available on the disk
List Volumes	Gives you a list of all the drives that are collected to your computer, along with the slot and drive numbers, and the names of the disks that are in those drives.
Duplicate a Disk	Lets you make an exact copy of a disk. You can't use this option to copy the contents of a 3.5-inch disk onto a 5.25-inch disk. You must use the copy files option to copy between disks of different sizes.
Format a Disk:	This option lets you prepare a blank disk for storing data. When you format a disk, everything stored on the disk will be destroyed. You must format disks before copying unless you are using the Duplicate a Disk option, which automatically formats for you.
Other Options	Additional utilities are available under this option. Press escape to get back to the main menu. Verify That a Disk is Readable is located here.
Copy Files	This option lets you copy a file or files from one disk to another. Make sure your destination disk and your source disk have the same format. If they don't, the files will be converted to the new format as they are copied and they won't be recognizable to the program used to create them.
Delete Files	Permanently erases files from the disk. If you want to erase all the files on a disk, it is faster to format the disk. You cannot delete a subdirectory unless it is empty.
Rename Files	Rename a file without changing its contents.
Lock/Unlock Files	Allows you to lock a file so that it cannot be deleted. Also allows you to unlock a file so that it can be deleted.
Create Subdirectory	A subdirectory is a file that point to the location of other files on the disk. It is a way of organizing your files into groups or subsets.

	First you must create the subdirectory, then you can copy files into it. When you save files in a ProDOS application, you give the subdirectory as part of the pathname and you file will be saved where you wish it to be.
Set Prefix	This option lets you store the first part of a pathname (the disk name and any subdirectory names) in the memory of the computer so you can access files in that subdirectory simply by typing the rest of the pathname (usually just the filename). Once you set a prefix, it stays set until you change it, turn off the computer or start another program.
Rename Volumes	Allows you to change the name of a disk without changing the contents.

Sample File Copy

Follow these directions to practice copying a disk using the Copy Files Option. You must have formatted disks available if you want to store information. YOU CAN COPY DISK CONTENTS ONTO A LARGER CAPACITY DISK-- FROM A 5.25 TO A 3.5-- IF THE FORMAT IS THE SAME.

1. FORMAT A BLANK DISK
   a. Highlight Format a Disk. Press RETURN
   b. You will be asked where you disk is, press RETURN
   c. Use the up and down arrows to change the number of the slot, use the right arrow to move to the drive number and the up and down arrows to change it. Press RETURN
   d. Follow the directions on the screen.

2. COPY FILES
   a. Highlight Copy Files. Press RETURN.
   b. You will be asked to select the source disk (your original) slot
      1. Select slot 6 if your original disk is in the 5.25 drive
      2. Select slot 5 if you original disk in in the 3.5 drive.
      3. Press RETURN when finished.
   c. Next select the drive which holds you original disk.
      1. Select drive 1 for the 3.5 drive.
      2. Select drive 1 for the top 5.25. drive
      3. Select drive 2 for the bottom 5.25 drive (if you have one).
      4. Press RETURN when finished.
   d. Repeat the above procedure for the destination drive.
   e. Select SOME files or ALL files
      1. If you select some files, a list of files will appear on the screen and you will use the arrows to move and the space bar to select the files you want to copy. Press RETURN when finished

f. Now the computer copies your files.

USING THE DESKTOP

The DeskTop is a program that helps you manage the information on your disks by moving *icons,* pictures that represent disks, files, subdirectories and so on, using the mouse. The DeskTop is meant to work primarily with ProDos disks and files. You can use it to make backup copies of DOS 3.3 or Pascal disks, and you can start up any Apple // application disk regardless of its operating system.

Starting the DeskTop

1. Insert the System Utilities Disk and highlight *DeskTop.Sys16* by clicking on the title with the mouse
2. The screen will have
   a. A TITLE BAR across the top
   b. A Trash Can in the lower right corner
   c. The name of your disk(s) with icons to represent them

You will need to remember how to Select an Object, Drag and Object, and Click on an Object when using the DeskTop. (Review the Apple //GS Guided Tour if you have forgotten these terms.) Make sure that you have the //GS up and running while you read these pages. Try out the different options to see what they are like. Let's take a look at some of the features of the DeskTop.

Menus

Written on the Menu Bar are the names of the menus, which stay hidden until you need them. To pull down a menu, point to the title of the menu and hold down the mouse button. The menu will remain visible until you release the mouse button.

To Choose a Menu Command:

1. Point to the menu title
2. Hold down the mouse button,
3. Drag the pointer down the list until the command you want is highlighted
4. Release the button

If you select a disk icon, then choose OPEN from the File Menu you will see what is on the disk. The contents of the disk are displayed in a Window.

Windows

All windows have these things in common:
a *title bar,*
a *close box,*
a *size box*
two scroll bars

The title bar is at the top of the window. The close box is in the upper left hand corner. The size box is in the lower right hand corner. And the scroll bars run along the bottom and the right side.

1. The size box allows you to change the size of the window by dragging the box up and to the left or down and to the right.

2. By pointing to the title bar, and holding down the mouse button, you can drag the window to wherever you want to put it. If the title bar is striped, the window is active. Click anywhere on a window to make it active.

3. The scroll bar allows you to see any part of the window.

4. To close the window, click in the close box.

File Management with the DeskTop

Viewing the Contents of a Disk

When you open a disk by double-clicking on its icon, all the files on that disk are displayed as icons in a window. The commands in the View menu allow you to see more information about these files and change the order in which they are displayed. Do the following activity:

1. Select and open a disk

2. Choose By Name from the View menu, notice what it it does.

3. Select another command from the View menu to organize the files in a different way.

Copying Files

Copying files from one disk to another is very simple. Drag the document icon to the disk icon. When you drag the icon of a file from one disk to a another, the DeskTop copies the file onto the new disk. The original remains on the first disk, and the copy is on the second. Here are the steps:

1. Open the source disk and select the file to be copied.
2. Drag the file icon to the destination disk icon.
3. When the destination disk is highlighted, release the mouse button.
4. You can copy a number of files at once by selecting multiple icons and dragging the whole group to the destination disk.
5. If you are copying a file that already exists on the destination disk, you will be warned before you proceed to copy.

Organizing Files into Folders

A folder keeps similar files together so that they are easy to move and find. Try this:

1. Open the destination disk
2. Choose *New Folder* form the File Menu
3. You'll see a message that asks you to type the folder's name. Type a name shorter than 15 characters and click OK.
4. Drag the files you want to put in the folder onto the folder icon, and release the mouse button when the folder icon is highlighted.
5. When you copy files into a folder, the originals remain where they were. You can drag these to the Trash to delete them.

Deleting Files

To delete a file drag its icon to the Trash and release the mouse button when the Trash icon is highlighted. Click ok if you are sure you want to permanently delete the file.

Formatting a Disk

Before you can save documents on a blank disk, you must format it. Follow these directions for formatting **ProDOS disk.** To format other types of disks, use DOS 3.3 or the System Utilities section of this disk.
Here are directions for formatting a disk:

1. Insert the disk to be formatted into any drive.
2. Choose *Format a Disk* from the Special menu.
3. Select the location of the disk and click OK.
4. Type a name of the disk and click OK.
5. If asked, confirm that you want to erase the current contents of the disk.
6. If the disk has already been formatted for the Apple II and you want to erase it, it's faster to use the Erase a Disk command from the Special menu.

Copying a Disk

If you have two drives of the same size, you can make a backup disk just by dragging the source disk icon to the destination disk icon

If you have only one drive of a particular size, use *Disk Copy* from the Special menu to make a backup. This is also the only way to copy a DOS 3.3 or Pascal disk from the DeskTop. Here are directions for one disk drive.

1. Write protect your source disk. (Optional, but recommended.)
2. Choose *Disk Copy* from the Special menu. There will be the Quick Copy menu.
3. Choose *Disk Copy* from the Facilities menu.
4. When you see *Select source disk,* select the slot and drive by clicking on the disk in the box.
5. When you see *Select destination disk,* select that slot and drive and again click OK.
6. Insert the source and destination disks in turn as prompted on the screen.

7. If asked, confirm that you want to destroy the contents of the destination disk.
8. Continue to inset the source and destination disks as prompted until the copy process is complete.
9. NOTE: YOU CAN COPY DISK CONTENTS ONTO A LARGER CAPACITY DISK-- FROM A 5.25 TO A 3.5-- IF THE FORMAT IS THE SAME.

Spend some time exploring the rest of the menu options. You should also find keyboard equivalents for some of the mouse moves.

This was just a quick tour of the System Master Disk for the Apple IIGS. For information regarding DOS 3.3, refer to the Class Manual.

INITIALIZING DISKETTES

In order to save programs you write, you must first prepare initialized diskettes. You initialize a diskette when you give a blank diskette a particular format for receiving communications from a given computer. Diskettes initialized on Apple II+ and IIe computers are compatible with IIgs computers.

Apple //gs Computers

If you need to have disks formatted in ProDos (to use with FrEdWriter), you may use the Apple IIgs Systems Disk and go to System Utilities. Then choose FORMAT A DISK from the Main Menu and follow the directions.

Other Apple // Computers

1. Boot a DOS 3.3 system master (Disk dive I)
2. Take system master out of disk drive.
3. Place new disk into Drive 1.
4. Type one of the following programs:

    a.
    ```
    INIT HELLO
    ```

    b.
    ```
    NEW
    5 Print CHR$ (4); "CATALOG"
    END
    INIT HELLO
    ```

    c.
    ```
    NEW
    5 REM HELLO
    10 PRINT "DISKETTE CREATED FOR 64K"
    15 PRINT "BY (YOUR NAME)"
    20 PRINT "ON (MONTH/DAY/YEAR)"
    END
    INIT HELLO
    ```

5. Press Return after you have typed program to initialize your diskette.

COPYING DISKETTES ON THE APPLE //e

The following instructions are for copying an entire diskette on information onto another diskette. You do not need to initialize a blank diskette first. Remember that this will erase any information you may have on the target diskette.

TWO DISK DRIVES
Apple //+,//e

1. Insert the Apple System Master into drive #1. Turn on the monitor and computer.
2. RUN the program called COPYA. (Type RUN COPYA)
3. Answer the questions on the screen telling the computer in which slots and drives you will have the original and target diskettes. (You can press RETURN to accept the default value for each question if you have the drives set up in the normal fashion.)
4. Put the original diskette you want to copy into drive #1.
5. Place the target (blank) diskette into drive #2.
6. Press RETURN.
7. When the computer is finished copying the diskette, the program will ask you if you wish to copy another diskette. Press Y if you do; press N if you are finished. Press RETURN.

ONE DISK DRIVE
Apple //+,//e

1. Follow steps #1 and #2 above.
2. When the computer asks you which slots and drives you are using, answer as follows:

ORIGINAL	SLOT:		6
	DRIVE:	1	
DUPLICATE	SLOT:		6
	DRIVE:	1	

3. Follow the instructions given by the computer. You will be asked to switch disks several times.

COPYING A SINGLE PROGRAM
APPLE //+, //e

This program allows you to do many things, but the most useful application is the ability to copy single files from one disk to another. Follow the direction below.

1. System Master. (Type BRUN FID)

2. You will see a number of choices that you have available.

(1)	COPY FILES	copy a single program on disk
(2)	CATALOG	catalog a diskette
(3)	SPACE ON DISK	space available on disk
(4)	UNLOCK FILES	lets you delete a locked file
(5)	LOCK FILES	prevents deleting a file
(6)	DELETE FILES	delete an unlocked file
(7)	RESET SLOT AND DRIVE	change default slot and drive
(8)	VERIFY FILES	checks file against catalog
(9)	QUIT	guess what?

3. To copy files, choose option #1 (press 1).

4. When asked for Slot and Drive, answer the questions as you did for copying diskettes.

5. If you know the name of the file (or program) you wish to copy, type in its name. You may also use the equals sign (=) as a wildcard character. If you wish to see the names of each of the files, just type = when you are asked for the file name. If you want all files starting with Apple type Apple=.

   If you use the wildcard, you will be asked "Do you want prompting?" Answer Y. Then you will be given the name of each appropriate file and be asked to verify if you want it by typing Y or N. Press Y if you want to copy the file, N if you don't.

6. If you are using a single disk drive, follow the screen instructions for swapping disks.

The other programs on FID use a similar format and instructions.

GETTING ACQUAINTED WITH YOUR COMPUTER

A. Turning it on

1. Locate the "Power On" switch for the CPU.
   a. Rear left side of the back of the computer
2. Locate the button or switch for "Monitor On."
3. Turn the monitor on. How do you know the monitor is on?
4. Turn the CPU power on. How do you know the power is on?
5. Look at the disk drives. Do you see a red light and hear a whirring sound? We need to turn them off for now.
   a. On IIgs, hold down CONTROL key while pressing the APPLE RESET key. (Located above the keyboard.)

   (Later, when you are working with software, you will place the software diskette into the disk drive before you turn the power on . Then the red light will go on automatically as soon as the software is "booted," or has prepared the machine for work. But for now we will not use software.)

B. Examine the keyboard

1. Try typing each of the keys.
2. Note the special function keys:
   ESC- Escape key
   Tab key
   Control key
   Caps lock key
   Reset key
   Delete key
   Special Apple key
   Arrow keys
   (You will learn how to use these keys in time.)
3. Use the return key after you have completed each command or statement. It is used a lot!
4. The shift key is used to get the upper symbol on keys.

C. Apples use Applesoft Basic as the machine language. You can learn to communicate with your machine in Applesoft Basic. Expect to get "Syntax Error" when you are just experimenting on the computer. Because you are not using BASIC, the computer does not understand what you are requesting it to do. In time, you will be able to communicate in a language that the machine understands, and that's what this course is all about!

D. **Communicating in Applesoft Basic**

Use "Print" commands (and press return key after each command.) Try these:

```
Print "Hello"
Print "My name is      "
```

Try these statements without the word "Print."
Try them without quotation marks.
Any questions?

Now try these number statements:

```
Print 6 - 2
Print 6 / 2
Print "6 + 2"
Print 6 X 2
Print 6 * 2
```

Any questions?

Try other Print statements on your own until you eliminate the dreaded syntax error!

E. Simple Programming in Applesoft Basic

1. *Rule One*: Always start a program with the word "New." This indicates to the computer that a new program is coming.

   Rule Two: Use Print statements.

   Rule Three: Number the Print statements to keep them in order.

   Rule Four: Your last statement should be "End" to tell the computer that your program is ended.

2. Check this three line program for the four rules above.

   ```
   New
   5 Print "Hi"
   10 Print "I am learning about computers"
   20 Print "This program is in Applesoft Basic"
   End
   ```

3. Type LIST (What happens?)

4. Type RUN (What happens?)

5. Type HOME (What happens?)

6. Try some programs on your own following the four rules.

   List. Run. Note that the program above does not yet have a name. A program needs a name when we wish to save or do other things with it.

MORE SIMPLE BASIC PROGRAMMING

Now that you have prepared some diskettes to work with, you can begin to experience some more Applesoft Basic commands.

1. **First,** type a simple program, such as the one in the Getting Acquainted with Your Computer section. Make sure your initialized disk is in the drive, so you have it ready to save programs
2. **Run**
3. **List**
4. **Save** Memo (When you typed this command and pressed Return, did you notice the red light on the disk drive? It came on to signal you that your program was being transferred from computer memory to disk storage or memory. Again, when the disk drive's red light is on, you should just relax until it goes off-- until the process is completed. Do not open the disk drive door when the red light is on.)
5. **Catalog** (What happens when you type this command?)
6. Other commands include:
   - a. **Lock**-- You can secure a program in your catalog so that it can't be deleted until it is unlocked.
   - b. **Unlock**
   - c. **Load**-- When you turn the computer off, you erase all that is in memory, programs and all. Then when you turn the computer on again and you wish to add to one of your programs, you must load the program from your diskette into the computer memory first. Once loaded, you can work on your program.
   - d. When you use the commands Lock, Unlock, Load, and Save, you must also use the name of your program exactly as it appears in catalog for that diskette.
7. Now create a new program.

   Run (see if it works)

   List (as another check)

   Save (by name)

   Catalog (see if it's really there)

Practice these Applesoft Basic commands until you know them!

TROUBLESHOOTING FOR YOUR COMPUTER

Becky Czerwinski

Computer is completely dead (no power, light, nothing)

1. Check plugs (both ends), switches, electricity.

If still dead:

2. Turn off power, open computer, carefully push down peripheral cards, motherboard chips.

If still dead:

3. Turn off power, remove all peripheral cards.

If still dead:

4. Quit--your computer is ill!

Computer doesn't work right

1. Identify whether the problem is software or hardware. Booth the computer with a known good disk. If it works, the problem is probably in the software program that was being used, not the computer.

2. Verify that all hardware is correctly plugged in and turned on and try again.

3. Turn off power and remove all hardware not required, printers, extra peripheral cards, etc. If the computer works, start plugging things in one at a time taking care that the power is off every time a change is made. Keep doing this until the hardware causing the problem is isolated.

4. If the problem seems to be with the disk drive, check its speed with a test program. Some programs are particularly sensitive to disk drive speed. Symptoms: the computer works with other programs and the program works on other computers.

5. Consider the possibility that the problem could be associated with the keyboard (a key doesn't work, double strike, etc.)

6. Bad ROM will cause many types of problems, it requires a special test to detect this problem. If a bad ROM is detected give this information to the service technician.

7. A RAM memory test can check for RAM problems, however these are often heat related and tough to find. If a bad memory location is identified give this information to the service technician.

8. If it still won't work, further diagnoses should be made by a service technician.

Monitor doesn't work right

1. No picture - be sure monitor is turned on. Check to see that it is connected to the computer and check the brightness control.

2. There is a picture, but it wavers or looks double. Check both ends of the cable, the ends may be loose or bent.

Various problems

I/O Error Message	Check door of the disk drive, take disk out and put it back in
Disk spins Continually	Close drive door, do a reboot. Check disk on another computer.

Main Causes of Computer Failure

Connecting devices or inserting cards with power on.

Connecting devices improperly.

Continually moving the computer without disconnecting the cords.

Dust and dirt.

Typical Order of Equipment Failure

1. Printers
2. Disk Drive
3. Keyboard
4. CPU

Preventive Maintenance

Keep the computer and keyboard free of dust and dirt.
Clean the connections with a Q tip and good rubbing alcohol about once a year.

LOGO: IT'S APPLICATIONS FOR THE ELEMENTARY SCHOOL

Shirley Hill
January 20, 1983

Logo is a programming language developed at Massachusetts Institute of Technology by a group of people interested in simulating thinking on a computer. It is now available on microcomputers and is a most appropriate beginning language for children or reluctant adults.

There are at least six major applications of LOGO in the elementary school. They are:

1. LOGO encourages the development of problem-solving abilities. Children feel free to risk, to try new things. Jim McCauley says that "LOGO + kids = thinking."

2. LOGO acts as an introduction to programming. LOGO is undoubtedly the easiest beginning programming language for children or adults. It facilitates children's understanding of the principles of structured programming.

3. LOGO gives children power as learners. One third grader wrote that in LOGO she liked giving the computer commands. She asked, "Can you imagine the computer commanding us?"

4. LOGO supports the learning of students who in the usual school, for one reason or another, often have difficulties. Children with diverse learning strategies have been successful with LOGO.

5 LOGO provides an opportunity for educators to develop diverse learning environments for children that are based on Piagetian principles. Children can take the step they are ready to learn in a manner in which they can succeed.

6. LOGO provides a basis for exploring several subject areas: including math, physics, music, and language arts.

Jim McCauley suggests that "a program (of any kind) is: an effective plan to solve a problem with in a constrained environment." He believes that "an appropriate computing environment for children should be like a good playground: 1) present interesting problems that get more interesting as the player's level of skill increases: in other words it should be challenging; 2) allow players to set their own goals; 3) and entered easily and mastered by continuous, self-measured progress." (Southern California CUE Conference remarks in June, 1982.)

LOGO's greatest potential is the power it gives children to control their learning. This truly enhances their self-confidence. LOGO is for learning to learn, and isn't that the most basic of the basics?

LOGO II COMMANDS
for the APPLE IIc IIe (128K) and IIgs

Special Keys

Arrow Keys	Move the cursor
Return	Reruns the instructions on the current line
Delete	Erases a character and moves back a space
Open Apple ESCAPE	Stops the procedure
CTRL L	Switches to a full screen of graphics
CTRL S	Switches to a split screen of text and graphics
CTRL T	Switches to a full screen of text
CTRL X	Cuts a line of text from the screen into the text buffer
CTRL Y	Cuts from the cursor point to the end of the line
CTRL R	Pastes from the text buffer onto the screen
CTRL W	Holds all text scrolling until a key is pressed
CTRL Z	Pauses all procedures. (Type a CO to continue)
Open Apple ?	Show the help screen

Editing Commands

To start the editor:	edit "name of program edit alone will start the editor with its previous contents
Open Apple A	Leaves the editor, saving the changes
Open Apple ESC	Leaves the editor without saving the changes
Open Apple ?	Help... displays the editor help screen
Arrow keys	Move the cursor
Return	Start a new line
Delete	Erases a character and moves back a space
Open Apple Left Arrow	Moves the cursor left one word
Open Apple Right Arrow	Moves the cursor right one word
Open Apple <	Moves the cursor to the beginning of the line
Open Apple >	Moves the cursor to the end of the line
Open Apple Up Arrow	Moves the cursor to the top of the editor
Open Apple Down Arrow	Moves the cursor to the end of the editor
Open Apple 1-9	Moves the cursor to various places in the editor
CTRL F	Deletes the character under the cursor
CTRL X	Cuts a line of text from the screen into the text buffer
CTRL Y	Cuts from the cursor position to the end of the line
CTRL R	Pastes from the text buffer onto the screen
CTRL O	Opens a new line at the cursor position

Logo Primitives and Special Commands

ALLOPEN	Outputs a list of the files that are currently open
ARCLEFT OR ARCL	Turtle draws arc to the left according to two inputs. Example: ARCL 50 90 Must load USEFUL.TOOLS or have
ARCRIGHT OR ARCR	Turtle draws arc to the right according to two inputs. Example: ARCR 50 90. Must load USEFUL.TOOLS or have procedure in memory to use this command

ASCII character	Outputs the ASCII code for character
BACK OR BK	Moves turtle backwards
BACKGROUND, BG	Outputs a number representing the background color
CLOSE	Closes a currently opened file or device
CLOSEALL	Closes all files and devices
CO	Causes a procedure to resume after PAUSE OR CTRL-Z
COLOR	Outputs a number representing the color of the turtle
COLORUNDER	Outputs a number representing the color underneath the turtle
CONTENTS	Outputs a list of all names, procedure names, and other words in the workspace
CIRCLEL	Turtle draws circle to left according to input. Example: CIRCLEL 25 Must load USEFUL.TOOLS or have procedure in memory to use this command
CIRCLER	Turtle draws circle to right according to input. Example: CIRCLER 25 Must load USEFUL.TOOLS or have procedure in memory to use this command
DOT	Places dot on screen in location indicated by x and y coordinates inside brackets. Example: DOT [12 6]
DRIBBLE	Opens the specified file or device and starts sending a copy of whatever text is printed on screen to the file or device Example: dribble "printer (sends file to printer) pofile "picture (prints out file picture to printer) nodribble (turns off device)
END	Indicates completion of procedure in edit mode
FENCE	Restricts turtle from moving beyond screen boundaries
FILL	Fills the shape enclosing the turtle with the color. If the turtle is not enclosed, the background is filled
FORWARD OR FD	Moves turtle forward
FULLSCREEN, FS	Devotes the entire screen to graphics, same as CTRL L
HEADING	Shows the direction the turtle is heading Example: PRINT HEADING will print out the heading of the turtle on the screen
HELP *word*	Prints the type of inputs for the primitive or procedure indicated

HIDETURTLE OR HT	Turtle disappears
HOME	Moves the turtle to [0 0] and sets the heading to 0
LEFT OR LT	Turtle moves to the left
NODRIBBLE	Closes the dribble channel (see DRIBBLE for example)
PAUSE	Causes a procedure to pause. Resume with CO
PEN	Outputs the pen sate (PD,PU, PE, PX)
PENCOLOR	Outputs a number representing the pen color
PENDOWN OR PD	Turtle will draw in this position
PENERASE OR PE	Pen position which erases line turtle moves over
PENREVERSE OR PX	Pen does opposite of what turtle moves over
PENUP OR PU	Pen does not draw in this position
REPEAT	Instructions are to executed more than once
RIGHT OR RT	Turns turtle to the right
SCRUNCH	Outputs the current aspect ratio of the screen
SETBG	Sets screen color according to code selected. 0=Black, 1=White, 2=Green, 3=Violet, 4=Orange,5= Blue. Experiment to see which colors work.
SETHEADING OR SETH	Turtle faces specific direction indicated in SETH degrees. Example: SETH 90 (turtle turns 90 degrees to the right.)
SETH TOWARDS	Causes the turtle to point in a certain direction using the x and y coordinates, but does not cause it to move. Example: SETH TOWARDS [100 100] causes the turtle to face in a 45 degree angle to the right.
SETPC	Sets pen color according to the code selected. (See SETBG)
SETPOS Draws a line as it moves.	Moves turtle to location indicated by x and y coordinates. Example SETPOS [100 0].
SETX	Moves turtle to x-coordinate location indicated by input. Draws a line as it moves. Example: SETX 100
SETY	Moves turtle to y-coordinate location indicated by input. Draws a line as it moves. Example: SETY 100

SHOWTURTLE OR ST	Makes turtle appear on the screen
WINDOW	Allows the turtle to go off the screen without wrapping.
WRAP	Turtle keeps coming back on screen when it moves exceed screen limits

Screen Commands

CLEAN	Erases screen without moving turtle
CLEARSCREEN OR CS	Erases screen and moves turtle to center
CLEARTEXT	Erases all the text on the screen
FULLSCREEN (CTRL L)	Screen is dedicated to graphics
HOME	Turtle to center of screen facing up
RENAME	Changes the name of a file Example: rename "address "address.old
SAVEPIC	Saves a graphics screen into the file named Example: savepic "testscreen Saves the graphics screen in file testscreen in the current directory
SETPREFIX	Sets the ProDOS prefix, or disk name. Use to tell LOGO where to save your work
SPLITSCREEN (CTRL S)	Top 20 lines of screen display graphics, bottom four are for text
TEXTSCREEN (CTRL T)	Entire screen is dedicated to text

File Commands

CATALOG	Lists all files in current directory
COPYFILE	Copies the contents of one file into another Useful for making backup copies of files Example: ?setprefix "/mylogo ?copyfile "picture "newpicture
EDIT OR ED	Places named procedure in edit mode
ERASE OR ER	Deletes procedures in memory
ERASEALL (ERALL)	Deletes procedures in memory
ERASEFILE	Deletes file from disk
ERPS	Erases all the procedures in the workspace

LOAD	Places named file from disk into memory
LOADPIC	Loads the picture named by pathname onto the graphics screen Example: loadpic "triangle.pic
ONLINE	Prints out the volume name of every disk in a disk drive
PACKAGE	Places named procedures in their own file
PRINTOUT OR PO	Displays named procedures on screen
PRINTOUT PROCEDURES OR POPS	All procedures in memory are displayed on screen
PRINTOUT TITLES OR POTS	Titles of procedures in memory are displayed on the screen
SAVE	Saves named procedure on disk

Color Codes

0=Black 1=White 2=Green 3=Violet 4=Orange 5=Blue

Input and Variables

Input	What you enter into the computer. Example: in the command FD 50, 50 is an input

Example of the Use of Variables:

TO STAR :SEGMENT	The name of the procedure, the : signals the computer to expect a word next. SEGMENT is the name of the variable given to the sides of the star. It could be called JUDY or any name you wish. It requires the user to input a number after calling up the procedure.

REPEAT 5[FD :SEGMENT RT 144]	Repeat is a familiar command. FD :SEGMENT instructs the turtle to go forward the number of steps that was input.
END	End of the program

If you wish a program to have two inputs, put two variable names in the title line.

Text

The following are some examples of how to use text. (The Logo Manual has further examples.) There are special characters which cannot be used in the words as they have been assigned special definitions in Logo. They are : ( ) < > + -= * [ ]. Study the following examples.

1. When a word is the input, the word must be preceded by quotation marks. PRINT "LOGO would produce the word LOGO as the output. No spaces are allowed.

Input	Output
PRINT '1234	1234
PR "WATER	WATER
PR "TURN OVER	error, no spaces allowed, two words must be enclosed in brackets
PR "EASY\-DOES\-IT	EASY-DOES-IT
PR "GO "SKIING	error, only one word can appear with quotes

2. A word in brackets signals a one-word list

Input	Output
PR [999]	999
PR [SKITODAY]	SKITODAY
PR [*SKI*]	*SKI*
PR [I LIKE TO SKI]	I LIKE TO SKI

3. The WORD operation combines elements or words into one word eliminating the spaces. Only words and not lists are acceptable in this operation. A set of parentheses must be around the operation and words if more than two words are to be combined.

Input	Output
PR WORD "EVERY"ONE	EVERYONE
PR (WORD "BOOK "KEEP "ER)	BOOKKEEPER
PR WORD ["TELE "MARK	error, WORD doesn't like [TELEMARK]
PR (WORD "TELE "MARK	TELEMARK
PR WORD "TELE "MARK	TELEMARK

FORMATTING DISKETTES FOR LOGO ON THE APPLE // GS

1. Boot machine with Logo master until "Welcome to Logo" appears on screen.

2. Type this command:
   ```
   LOAD "FORMAT (press RETURN)
   ```

3. Wait for special format display on screen which will look something like this:
   ```
   SLOT          6
   DRIVE         1
   VOLUME NAME
   ```

4. Remove Logo master and insert your own diskette.

5. After VOLUME NAME, type this command:
   ```
   MYLOGO
   ```

6. When the red light goes off, you should see a message on the screen. Formatting successful!

7. To format more than one diskette, press the Apple key and the ESC key simultaneously and this returns you to the Logo prompt so that you may repeat the process.

8. Before saving Logo procedures onto your formatted diskettes, type this command:
   ```
   SETPREFIX "/MYLOGO   (RETURN)
   ```

PRINTING LOGO GRAPHICS AND PROCEDURES

on Apple IIgs with Imagewriter printers

Printing Graphics

1. Boot Logo and make sure sure the printer is turned on and selected.
2. Insert your data disk and type:
   ```
   SETPREFIX "/MYLOGO
   ```
3. Type:
   ```
   LOAD "(your file name)
   ```
4. Bring picture to screen by typing name of superprocedure.
5. Type:
   ```
   PRINTPIC 1
   ```
6. Your picture should print out.

Printing Procedures

1. Type: `Dribble 1`
2. Type: `PO "(name of procedure)`
3. Repeat #2 for each procedure you want printed out.

OR

1. Make sure USEFUL.TOOLS has been loaded.
2. Type the following dump procedure:
   ```
   TO DUMP :FILE
    DRIBBLE 1
    POFILE :FILE
    NODRIBBLE
    END
   ```
3. Once this procedure is defined, type:
   ```
   DUMP "(name of superprocedure)
   ```

TEACHER UTILIZATION OF THE COMPUTER

The computer can be a valuable tool for every teacher. It can save time, work, and generate teacher designed materials. It can make record keeping, test writing, etc. fun!

RECORD KEEPING

The use of some kind of a grade book program will save you a tremendous amount of time when progress reports or final grades are needed. It takes about half an hour a week to enter grades. Some programs have you enter grades as percentages, others have you enter the number of points earned and calculate the percentage for you. When it's time for report cards the grades are already done! At any time you can get results as to how the class or an individual student is doing. This serves several purposes.

Individual reports are excellent to use as progress reports to student and parent. It lists assignments by name and the percentage grade on each. This is useful in picking out areas of weakness, as the assigment name can include the concept covered.

Class reports can be printed in ranked order. This is helpful for deciding final grades, grouping, and motivation. A few top students can be announced and the other students can be shown their grades privately to see where they stand in the class and to be encourages to work harder in order to "move up". This also comes in handy for parent conferencing to show how a student compares to classmates.

Reports can also be made of the class average on each assignment. This enables the teacher to see which topics need further review and instruction.

Assignments can be weighted. You don't have to average tests, quizzes, and homework assignments separately. You just give them different weights.

WORD PROCESSING

The uses of a good word processing program are unlimited! Following are a few examples:

To aid record keeping: Design a blank grade sheet and save it under the name Gradesheet. Then fill in the blanks with the student names. Add title, notes, as appropriate to the class. Save this under the name of the class. You can then print out a gradesheet for that class. Should you have students leave, or get new students, it is then a simple matter of calling up your gradesheet for that class, making a few changes, and printing a new copy.

Gradesheets are still useful. It's easier to enter all your grades into the computer once a week than as you get them, plus you would have to have a computer available at all times. It is also easier to tell a student what assignments he/she may be missing. (Be sure to put grades changes and assignments turned in late in a different color or designate them in some way,so you can keep track of which grades need to be changed in the computer gradebook.)

It is also useful to have a grade sheet formatted to keep track of citizenship. The columns are divided into spaces for four weeks. You can then look at it to see easily who deserves monthly citizen ship awards,

Notes, quizzes, tests, book report forms, worksheets, etc. can all be done on the word processor. The advantages:

1. Makes very clear dittoes. Can print right onto a ditto master! (It's a good idea to print one out on regular paper to keep as a sample, the master can then be filed.)

2. If after using the worksheet, etc, you see any areas that need improving, such as a question no one understood or directions that weren't clear, you don't' have to retype the whole paper. Just call it up, edit, and print a new copy.

3. You can use the same format for several subjects. For example, when doing an extensive unit you may want students to make a glossary of vocabulary words. You can design one glossary form. Then when ever you want a new glossary you need only change the words. You don't have to type all the lines or figure out how many words can fit on a page!

4. When writing small notes, or reports, if you can fit more than one on a page, you don't need to type the same line over and over. Word processors can copy lines and place them elsewhere on the page.

5. Notes to substitutes: You can write up a basic outline of how you run your classroom. As students, schedules, rules, etc. change, you can update the note. (Substitutes find this very impressive.)

TEACHER UTILITIES PROGRAMS

There are several programs on the market that can be used to tailor-make materials for your classroom. These can supplement any subject area where vocabulary is taught.

CROSSWORD MAGIC: This program allows you to generate your own crossword puzzles with whatever words and definitions you want to use. It even prints a miniature answer key.

MECC: There are several programs in the MECC materials that allow you to create word hunts, puzzles, banners, drills, and tests. Elementary Volume 2 and Teacher Utilities Volume 1 are two examples.

HI TECH OF SANTA CRUZ: There are several programs by this company that generate tests, create word puzzles and other teacher utilities.

PRINT SHOP: Print Shop is the most popular software program around. It allows you to make banners, signs, greeting cards, and design your own graphics or choose from several libraries. Print Shop is great for making title pages, signs around the room, announcements, etc. Kids love to use it for projects, elections, and cards. They can even design their own graphics.

PUBLISHING PROGRAMS allow students to produce their own newspapers or page layouts.. There are different types of headings, page layouts, and graphic sections. There are several on the market including Publish It. and The Children's Writing and Publishing Center to name a couple.

DATA BASE MANAGEMENT

There are many data base programs. These can be useful in many ways. FrEdBase is part of SoftSwap and available for you to copy and use. Every elementary school in the state of California received one copy of Friendly Filer in the TIC materials. This program is not copyable, but is a good one to use with students. The following are some things that you might want to do with data bases in your classroom.

Getting Acquainted: In September, have students interview each other. Find out facts such as birthdate, birthplace, favorite sport, pets, hobbies, ambitions, languages spoken, favorite foods, etc. Have these entered into the data base system by students. Then conduct searches, reports, etc. such as a list of all those interested in computers, those whose favorite sport is soccer, all the dog owners, etc. A good way to find out who likes the same things! A suggestion: don't let friends interview each other. Draw names out of a hat or something to be sure students work with someone they might not ordinarily. Let them work together also on entering data into the computer. This is an excellent socializing activity!

Book Reports: Use a data base, such as Friendly Filer, FrEdBase or Bank Street Filer. (Data Relator has a sample book report form in the language arts file cabinet.) It is very motivating for students to use the computer to do book reports. The students can search for books on topics they are interested in and read what their classmates say about the book.

Data Analysis, Generalizations: Students locate and list concrete facts on a topic of study, such as states. They can then interpret and organize the data by classifying facts and entering them into the data base in a meaningful way. They can then make simple searches for facts. (Which states receive more than 20 inches of rain a year?) After mastering the procedure for searches, the students can compare data on states to make inferences and verify them. (Does the largest state have the most people? Are oranges grown only in states that have a mild climate? Do all states have mountains? Do more people live in industrialized states or agricultural states?) Several commercial data bases come with additional files. Bank Street Filer and PFS are two such products.

These are only a few ways to use the computer to make teaching easier and more enjoyable. You will probably think of many more!

Becky Czerwinski and Judy Lieb

FULLERTON SCHOOL DISTRICT COMPUTER CONTINUUM

KINDERGARTEN

AWARENESS

1. The student will become familiar with common computer words and their meanings.
2. The student can identify several roles that computers play in our daily lives.

OPERATIONS

1. Student can locate and identify the letters, numerals and special keys on a computer keyboard to utilize grade appropriate software.

FIRST GRADE

AWARENESS COMPONENT

1. Student will become familiar with common computer words and their meanings.
2. The student can describe realistically what a computer can and cannot do for humans.

OPERATIONS

1. The student can locate and identify the letters, numerals, and special keys for operations and commands on a microcomputer keyboard to utilize grade appropriate software.
2. The student can demonstrate the correct handling of software/hardware by loading and running a pre-programmed program on the computer.

SECOND GRADE

AWARENESS

1. Student will become familiar with common computer words and their meanings.
2. The student can identify several roles that computers play in our daily lives.
3. The student can describe the compuer as a machine or tool that can help solve problems (with worlds or numbers) quickly and easily.

OPERATIONS

1. Student can locate and identify all letters, numerals, and special keys for operations an commands on a comptuers keyboard while using grade appropriate software.

THIRD GRADE

AWARENESS COMPONENT

1. The student can define (and spell) basic computer terms including hardware and software.
2. The student will demonstrate knowledge of the advantages and disadvantages of using a computer, and describe realistically what a comptuer can and cannot do for humans.
3. The student can describe computer hardware as the physical components or equipment of a computer system, and identify those components.

OPERATIONS

1. The student will become familiar with the correct fingering when using the keyboard.

FOURTH GRADE

AWARENESS

1. The student can define (and spell) basic computer terms including input, output, memory and central processing unit.
2. The student can describe how a computer works, explaining Input, Memory, the Central Processing Unit, the Arithmetic Unit, and Output and identify the components that perform these functions.
3. The student can predict new uses for computers in the future..
4. The student will understand the implications of copyright laws.

WORD PROCESSING

1. Student will become familiar with computer vocabulary words relating to the use of a word processing system
2. Student will demonstrate mastery of fourth grade written language objective/s (from the school's plan or district's language continuum) using a word processor

OPERATIONS.

1. Students will become familiar with the correct fingering when using the keyboard.
2. The student will become familiar with operating a printer.

FIFTH GRADE

AWARENESS

1. The student will understand the implications of coyright laws.

WORD PROCESSING

1. Student will create, edit, save, retrieve, and print a story using a word processing program.
2. Student will become familiar with different vocations using a word processing program.
3. Student will demonstrate mastery of fifth grade written language objective/s (from school's plan or district's language continuum) using a word processor.

OPERATIONS

1. Students will begin using the correct fingering when using the keyboard.
2. The student will operate a printer to produce at least one hardcopy of work done on the comptuer.

DATA BASE MANAGEMENT

1. The student will demonstrate the ability to collect data on a specific topic.
2. The student will become familiar with the use of database.
3. The studetnw ill become familiar with comptuer vocabulary words relating to the use of a database system including field, record, file and report.

PROGRAMMING

1. Student will write, save, and debug a simple program.

SIXTH GRADE

AWARENESS

1. The student will understand the implications of coyright laws.

WORD PROCESSING

1. Student will create, edit and print a story using a word processing program.
2. Student will become familiar with different vocations using a word processing program.
3. Student will demonstrate mastery of sixth grade written language objective/s (from school's plan or district's language continuum) using a word processor.

OPERATIONS

1. Students will use correct fingering when using the keyboard.
2. The studetn will operate a printer to produce at least one hardcopy of work done on the comptuer.

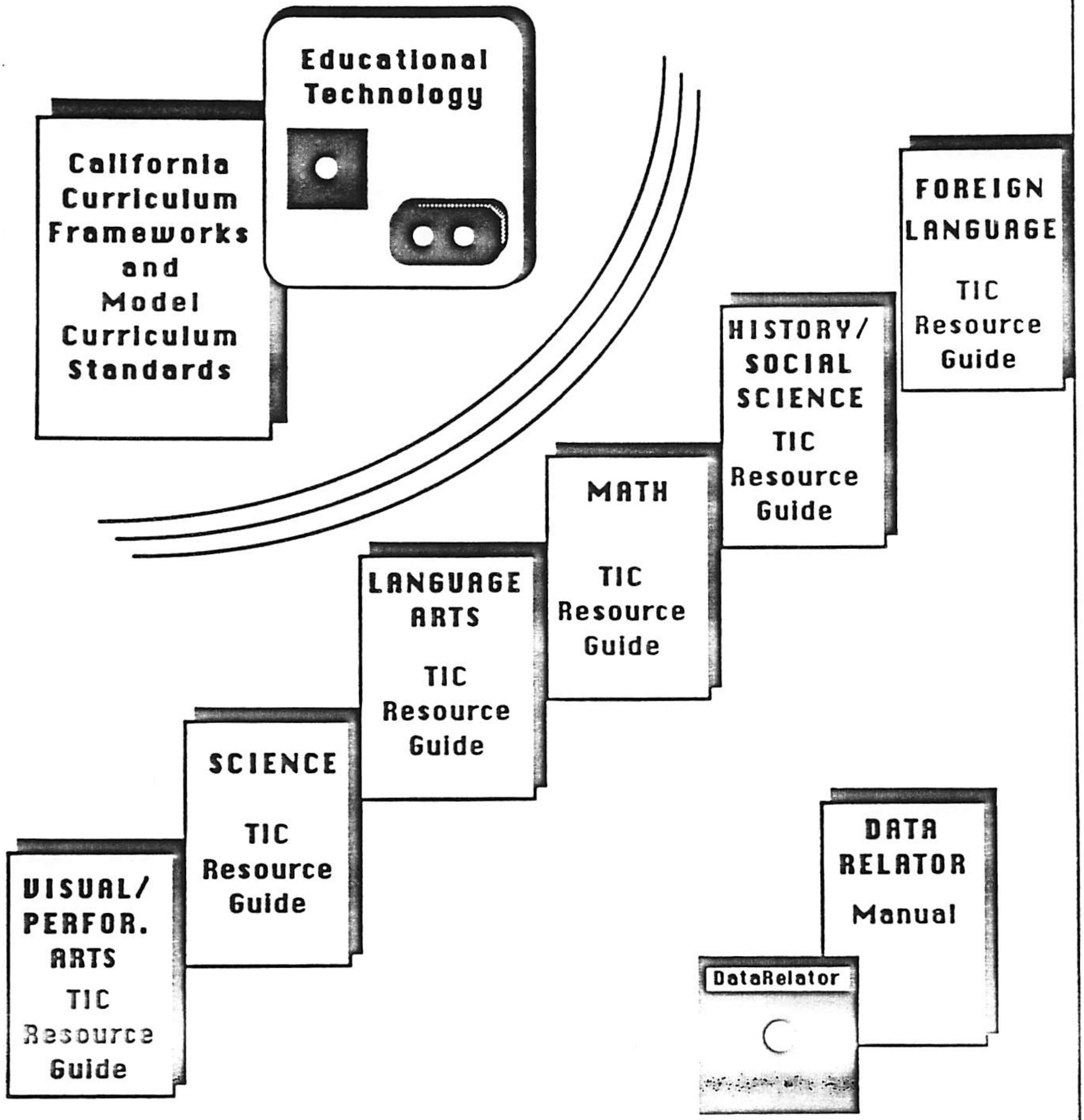
DATA BASE MANAGEMENT

1. The student will demonstrate ability to interpret and organize data by classifying attributes and entering them into the data base in a meaningful way.
2. The student will use the database to compare and contrast information.
3. The student will make rudimentary inferences about the data and support them with facts found win the database.

PROGRAMMING

1. Student will write, save and debug a simple program.
2. Student will write, save, print and debug a program.

TECHNOLOGY IN THE CURRICULUM



Educational Technology

California Curriculum Frameworks and Model Curriculum Standards

FOREIGN LANGUAGE TIC Resource Guide

HISTORY/ SOCIAL SCIENCE TIC Resource Guide

MATH TIC Resource Guide

LANGUAGE ARTS TIC Resource Guide

SCIENCE TIC Resource Guide

VISUAL/ PERFOR. ARTS TIC Resource Guide

DATA RELATOR Manual

INSTRUCTIONS FOR DUPLICATING THE TIC DISKS

1. There are 5 diskettes in the TIC project that will need to be copied. Each disk has information on both sides, so you will either need 10 regular diskettes or 5 diskettes notched for copying on the second side.

2. Any copy program will copy the TIC disks, so use your favorite program. If you are unfamiliar with making copies of disks, please follow the instructions below.

3. If you are copying on both sides of your disks, be sure that you do NOT copy one of the Data Relator database disks on the back side of the Data Relator Program diskette. We recommend you put FrEdWriter on the back of Data Relator to avoid this problem.

4. The Data Relator disk has a disk duplication program built into it. To use it follow these steps:

   1. Find an Apple IIe with 2 disk drives or an Apple IIc with an external drive.
   2. Boot the Data Relator Program disk.
   3. Use the down arrow to highlight "UTILITY CLOSET."
   4. Hold the Open-Apple key down (the key to the immediate left of the space bar) and press"D."
   5. When the disk drive light goes out, place your source disk (the one you are copying) in drive 1 and a blank in drive 2.
   6. Follow the prompts, indicating that your source disk is in drive 1 and the disk you are copying drive 2.
   7. Label the copied disk before or immediately after making it.
   8. Repeat steps 2 through 7 until you have finished copying all of the TIC disks.

5. You should now put your TIC master disks in a safe place.

FrEdBase
A Data Base for the Classroom

Introduction

People who create educational software packages do so because they have an idea, perceive a need exists for their idea and therefore produce a piece of software that will help to meet that need. The software that is produced not only contains the author's solution to meet the need, but it is produced containing some amount of their knowledge and philosophy of education. Unfortunately it is rare that the using public understands the philosophy that is embedded into a piece of software code and the resources that go with it.

For several years now there has been a growing suite of integrated software becoming available in the FrEd family. The FrEd family is not integrated as programs such as Appleworks which share data, but is integrated in its philosophy and use.

This family of software has come about because of the educational vision of some of the people here, but the development goes much further. FrEd, I suppose is a part of us all and we are a part of it. It is a reflection of educational computing today.

Have you ever considered how much the commercial companies lead and direct the software used in schools, which in turn directs what happens in schools? This can be a frightening thought when one considers that the major aim of all companies is to make a profit and stay in business! The FrEd family of software does not suffer from this consideration as it has been developed by practising educators.

This paper is an attempt to provide for potential FrEdBase users, or anyone interested in using data bases as a learning tool, the view of education and philosophy that are contained in FrEdBase. FrEdBase is a new data base management package that is available for Apple computers. It has been developed in Australia and is Freeware (this means you may copy it freely but may not change it or sell it). It is hoped that by presenting these views and feelings that more people will try to use data bases in the classroom and those that already are using data bases may be able to provide better learning experiences for their students.

Data Bases In Schools

If one looks at the present situation of computer use in schools we find some interesting events. It is the view of NSW Regional Computer Education Consultants[1], computers are being used more in schools for writing and publishing than any other purpose. There is still a regular use of drill and practice software, while problem solving, simulations and adventure games are growing in popularity. It is their opinion that few schools are using data bases in the curriculum and those that do, are relying on pre-packaged data bases such as The First Fleet data base[2].

So why aren't data bases being used more in schools? I'm sure there are many reasons and perhaps it would provide for an interesting study, however there seems to be several clear reasons that I would like to discuss.

It has been deeply embedded in us through our school years that to be able to produce neatly presented writing means that we are better writers. Before computers came along we all dreamed of having our work neatly typed, but if you were like me and couldn't type, it was out of our reach. Teachers reinforced this by providing higher grades for those who could present neatly. So, when computers and word processors came along it was natural that teachers would see this as being a great advantage to their students. Add to this the push towards the process approach to writing which tied in beautifully with word processing, and teachers were, and still are, glad to allocate all of their computer time to have students type away at the keyboard producing neatly presented stories and writing. Don't get me wrong, I'm not knocking that activity, in fact I'm sitting hear thinking how amazing it is that I can write this using a word processor.

---

[1] Views tabled at NSW Regional Computer Education Consultants Conference, February 1988.

[2] Popular Australian Curriculum data base developed by Elizabeth Computing Centre, Hobart Tasmania, 1982.

Unfortunately, the view that computer education equals child sitting at keyboard still persists in schools. Teachers have said to me that using drill and practice type software is the only way that all of the students can get their hands on the computer in the allocated computer time. Besides, it does a good job of drilling maths and language facts! This may be true, but a 5 cent stencil could probably do nearly as good a job allowing the computer to do the things it does better.

Australian schools still have a limited base of computer hardware, and I see that this will not change drastically in the near future. With the limited access for students "hands on" experience that this causes, perhaps more teachers should be looking towards using their computer time for problem solving and inquiry applications. Data bases provide an excellent tool for this type of classroom activity. I have often heard it said that it takes many weeks of my computer time for all of the students to produce one story. Using data bases, all students can use the computer in one lesson. So why aren't more teachers using data bases?

There is probably no one reason why data bases haven't taken off in schools the way that other applications have. Here are some that gave birth to FrEdBase.

The Inquiry Classroom

Most teachers feel comfortable writing, they have to do a lot of it in their work. They know much about writing and feel comfortable teaching writing. They can easily see the results of their teaching. With word processing the product is tangible, with data bases it is not so tangible. The "writing classroom" including a computer is something more teachers are working towards. The use of computers can be linked to an educational process, the writing process, which provides the structure teachers need.

Inquiry classrooms involving computers seem not to be so common. Few teachers seem to really enjoy delving into information, collecting, collating, generalising and testing. Perhaps writing is perceived to be a more important skill, or that inquiry is not such an obvious part of a teacher's role.

Let's look at reasons why I feel more teachers aren't using data bases (effectively??)

Part of the reason why more teachers aren't using data bases might be that they also need a structure within which to work that easily accommodates computer use. They then need the software tools that will allow them to work within the structure, tools that will allow students to create, manipulate and report using their own information. Finally, they need to develop the teaching skills; which include the necessary computer skills, to manage the use of data bases in the classroom.

The Inquiry Process

More and more teachers are using the process approach to the teaching of writing, with quite obvious benefits to their students. Just as the process of writing can be represented as a cyclic process, the inquiry process could also be represented as:

One model of the Inquiry Process would be....

The Writing Process	The Inquiry Process
1. The Idea or Area of writing *Write a report on breakfast cereals.* *Who am I writing for?*	**1. Problem or Area of Inquiry** *Which breakfast cereal is best for me?*
2. Drafting the writing *What should I include?* *Where can I get information?*	**2. Defining the Problem** *What information will I need?*
3. Editing and Revising *Is what I have written suitable?* *What needs to be changed?*	**3. Locating and Collecting Information** *Where can I find or collect this information?*
4. Publishing *How should my finished work look?*	**4. Organising, Interpreting and Evaluating the Information** *Which information is important?* *How should the information be organised?* *What can I conclude?*
5. Response *What happened because of my writing?*	**5. Reporting - Presenting Findings** *How can I present my findings?* *How can I convince others?*

Note: This is the author's representation and should not be considered as the only way the process of inquiry can be presented.

Using this model an area of inquiry is selected/presented, most likely by the teacher. This can usually be represented as a focus question. Inquiry will be promoted if students are provided with problems that are relevant to them.

The class (teacher and students) then need to define the problem or area of inquiry, and consider the information that will be required for the inquiry. Supporting questions should be developed. Inquiry activities are better done using a group work approach.

The next step involves collecting and collating the necessary information. This is where the data base can be introduced. Using their own data collected from their environment or source information, students can create a data base that will help them in their inquiry. They will need to enter the information into the data base and then verify their information. The decision may be made that it is necessary to add to, or adjust, the information at a later time.

When the data base is complete it can be used, in conjunction with other resource materials, by the students to organise and present their information. Students should be encouraged to make generalisations and then use the information in the data base to test their generalisations. Ideas can be developed, and then explored. The ability to output information in a variety of forms is an important feature of a data base package for schools.

Probably the most important part of inquiry learning is that there needs to be a product, some final output that the students are expected to produce. This may take many forms including written reports, oral presentations, charts and displays. It is also both important and motivational if the students have an intended audience for their final report. Not only does this product provide the teacher with evidence of the students learning, it validates the process for the student.

As with the process approach to writing, it is important for the students to discuss their findings and ideas, to revise and back track, and to have a goal (i.e. the report) with an intended audience. The computer data base allows the students to easily manipulate and present information, providing more opportunities to process information, evaluate information, test and revise their hypothesis.

Ownership of information is a powerful motivation in inquiry learning, ownership of the inquiry process is the right of all students.

Data Base Software

There has been much discussion about what a data base package for schools should contain. In my view it is really quite simple, it needs to be easy to use, flexible and be able to output, or report, in a variety of forms which can be adjusted by the user.

Ease of use is the major criticism of most data base packages that are available now. As the power of the data base software increases, it seems so does the knowledge and skills required to use it. This is fine for experienced computer users who understand the jargon and are excited at the thought of having a megabyte of memory for their 6000 record data base. For the average computer using teacher they want an inquiry tool that does what they want without a lot of fuss. FrEdBase aims to provide such a package.

With FrEdBase the user selects options using menus, with clear instructions on the screen. At most times Information on just what the user is doing is available in a concise sentence. Creating a data base record layout is simple, and these can be adjusted after data has been entered. The information in a data base can be edited and changed.

For too long data base software has been generally unfriendly. FrEdBase is a full language friendly data base package that allows communication between the user and the software to occur with some resemblance to normal language. When one considers that one of the most important inquiry skills is posing appropriate questions, the communication between user and software is vital.

Most data base packages will allow the user to create and print lists and labels in a variety of forms, which is a bare minimum for output. Different data needs to be displayed in different forms to be able to be interpreted by students. The ability to produce a variety of graphs from within the program is an important function missing in most educational data base packages. This however is an important function as it increases the forms with which information may be displayed and therefore provides the opportunity for different interpretations.

The ability to interpret data, to draw conclusions and use the data to support their conclusions should be what teachers using data bases are aiming for in their students. To do this, the data base package MUST allow students to easily sort their data, search their data, prepare reports in a variety of formats and print out their findings.

The software must also be accessible to the teacher and the students. They should be able to have their own copy to use when they need it. This is why FrEdBase has been provided with permission for people to copy it and have their own copy.

Teacher Development

I predict that the reason why more teachers are not using data bases in the classroom lies in that fact that they do not feel comfortable as investigators themselves. Teacher training programs need to firstly help teachers develop an enjoyment of inquiry. They need to help teachers understand how to promote inquiry learning in their classrooms, and the tools that are available to support them.

Teacher training programs should provide opportunities for teachers to use the inquiry process; define their own areas, collect, collate, generalise, test and revise. Programs should work from the concrete to the abstract. Teachers should be provided with the opportunity to produce a product and to share their results. They should also be provided with models of successful lessons which they can try in the classroom. Enjoyment and success from inquiry should be the key to all programs.

The development of the skills necessary to use the computer as an inquiry tool is an important part of teacher development. Using "easy to use" and friendly software will make this task faster and less threatening.

Teachers who develop enjoyment out of inquiry can strive to develop an Inquiry Classroom. The Inquiry Classroom encompasses many things. It provides students with:

- the opportunity to work from the concrete to the abstract,
- the opportunity to work towards solving relevant and worthwhile problems,
- the expectation that students will tackle and solve problems,
- the opportunity to have access to the tools of inquiry (including computer, reference and source materials)
- a teacher model of an inquirer.

Inquiry can involve activity in many curriculum areas. To the teacher who can manage to develop this type of classroom, the rewards are significant.

Conclusion

This paper aims not to sell a software package, but more to sell the philosophy behind the software package. If you are a teacher then I have tried to provide you with both the tool you will need and a model within which to use the tool. If you are a teacher educator I have given you a challenge and a reason to at least spend some of your time on developing the teachers you serve in using data bases as an inquiry tool.

FrEdBase has not been developed in order to undermine the efforts of commercial software developers. Moreover, it is meant to compliment and be complimented by the use of commercial software packages. However, FrEdBase has been developed as a challenge to all of you to think about software and why it has been developed. Who will take up that challenge?

Greg Butler
Australia

A Unit on a Breakfast Cereals
by Greg Butler

This unit of work has students present a report on which are the best breakfast cereals. A data base program (such as FrEdBase) is used to organise data collected by the children. The value of this unit lies in the students being given a problem, collecting the information they will need (both on cereals and diet), manipulating and analysing the information, comparing data, making their decision and then writing a report stating their decision and supporting this with information.

Focus Question

Which breakfast cereal is the best for me?

Contributing Questions

What do breakfast cereals contain?

What, and how much, does my body need to grow and be healthy?

Which breakfast cereal components are important?

Do breakfast cereals contain ingredients that are not good for me?

Aim:

To have the children research, analyse and report on which breakfast cereal is the best for them.

Objectives:

The children will:

collect information on the ingredients in the breakfast cereals that they eat.

enter the information into a data base.

collect information on what they need to eat each day, to grow and be healthy.

list breakfast cereal components and amounts required each day for a healthy diet.

prepare reports for ingredients using data base.

list cereals in order of value to the diet.

prepare a report on their findings.

Teaching/Learning Activities

Activity One: Presenting the Problem

Present the students with the problem that they have to write a report for.... making recommendations on which are the best breakfast cereals for people to eat.

Class Activities:

- Discussing the criteria that could be used to decide which are the cereals.
- Listing the criteria.
- Deciding where and how information on the ingredients of breakfast cereals can be gathered.

Skills: Discussing, deciding, listing, planning.

Activity Two: Collecting and Entering Data

Students gather information from cereal packaging by cutting ingredient tables. Information is entered into an empty data base (It is recommended that the teacher creates the data base layout, however this could be done by experienced students). The information needs to be checked for accuracy and consistency.

Class Activities:

- Collecting product information from cereal packaging.
- Entering information in data base.
- Verifying information in data base.

Skills: Collecting data, classifying, computer, verifying.

Activity Three: Getting Information out of the Data Base

Teacher and students use the data base to create reports (printouts) of the information in the data base for each component. These reports are best done as lists or graphs. The information should be printed in order of ingredients (ie most fibre to least fibre). Averages can be included.

Class Activities:

- Sorting the information (Putting ingredients in order)
- Creating report layouts (optional)
- Printing reports

Skills: Manipulating information, designing layouts, computer.

Activity Four: Interpreting the Information

Students work with the information on their lists, comparing it to dietary information. Cereals can be rated on whether ingredients are above or below dietary requirements. One simple way of assessing the cereal is to give each cereal a tick or a cross according to whether it meets dietary criteria. Rather than have students find the best cereal, you may like to have the students list the cereals in order of value.

Note: It may be necessary to repeat activities four and five until students have the information they require to decide which cereal is the best.

Class Activities:

- Creating check lists for each ingredient.
- Comparing ingredients to averages and dietary requirements.
- Ordering cereals according to dietary value.

Skills: Researching, comparing, analysing, ordering.

Activity Five: Writing the Report

Using the information and decisions from activity five, students prepare a report in the form decided in activity one. They should present their decision and then back it up with the information they have used to make the decision. The report may be a poster, newsletter/newspaper article or Choice magazine type article.

Class Activities:

- Writing the report
- Conferencing their report.
- Presenting report to audience (eg to class, other class, putting written report in newsletter or sending to local newspaper.)

Skills: Writing, arguing, presenting

ELECTRONIC BULLETIN BOARD SYSTEMS
An Introduction for Fullerton Educators

Written by Tony Anderson
Fullerton School District

What is an Electronic Bulletin Board System?

An electronic bulletin board system (BBS) is a computer-based message system that allows the sending and retrieving of electronic mail with a personal computer. There are hundreds of such BBS's available for use with a variety of features. Some of the more common features include:

- *Electronic "mail boxes"* in which mail is stored until their "owners" call the BBS with their computers to retrieve it.
- *Electronic bulletin board* areas in which a person can post messages for all to read, similar in concept to the cork bulletin board at the grocery store used for posting advertisements and messages.
- *Features* consisting of articles and news that callers can read on their computer screens when they call the BBS.

What Do I Need to Use a BBS?

A device called a *modem* allows the connection of a computer to a telephone line. The modem converts electrical pulses that a computer understands to tones that can be sent over a telephone line, and at the other end reverses the process. Modems typically plug into modular phone jacks of the type commonly used by home telephone equipment. A computer program called a *terminal program* allows the computer to control the modem, such as letting the user type the phone number to be dialed, and sending other commands to control the interaction with other computers being called.

In Fullerton, each school has a Hayes Micromodem II modem for Apple computers, and each school has terminal programs available for controlling the modem. In addition, each school should have a modular phone connection wired in such a way to permit operation with the electronic phones used in the district. These connections are frequently located in the school's media center, although they may also be found in the office or in a computer lab.

Why Should My School Use a BBS?

The Fullerton School District has operated an electronic bulletin board system since 1983. The current version (CMS FrEd Mail) connects to a network of hundreds of educators located across the country who are interested in communicating with other educators, and in participating in collaborative projects between classrooms. This network opens the classroom walls and allows contact and cooperation between students in widely diverse geographic and demographic regions.

During the past year, dozens of innovative, cooperative projects have been completed between educators using this network. (For a description, see the article *Telecommunications Projects.*) These projects have enlivened the educational experience of both students and staff, and they have illuminated one of the major uses of computer technology, telecommunications.

What is the Cost of Using this Network?

Currently there is no cost to the individual school for using the educational network. The cost of operating the CMS FrEd Mail network is spread across a number of participating educational institutions, and individual stations in the network are run by dedicated educators interested in helping others to have access to this resource. All telephone calls that an individual school makes in using the system are station line calls accruing no cost to the calling school.

If There is No Cost, How Do Messages Traverse the Country?

There are dozens of FrEd Mail stations (or nodes in computer jargon) spread across the state and country. Mail is forwarded between nodes automatically during the late night hours when telephone rates are lowest by being sent from node to node until the mail reaches its ultimate destination. Messages are sent in high speed bursts, further reducing costs. Each individual node makes arrangements for paying for the expenses of its mail-forwarding telephone calls. In some cases, such expenses are paid by a participating agency, while in others such expense is funded by a business and industry partner.

How Do I Participate?

First, make sure that your school's media specialist or computer coordinator knows where your school's modem is located and how to use it. Encourage staff to take training classes offered in the district if they don't know how to use the modem. Second, publicize the availability of this resource to your teachers. Encourage your staff to think of projects that might expand or enrich the student's experience through telecommunications.

Third, watch for announcements in your school mail about teachers looking for collaborators for telecommunications projects. These announcements are periodically taken from the BBS and distributed to the schools. The FrEd Mail bulletin board system has a special section called *Ideas* in which teachers can solicit partners for joint projects, and the announcements sent via school mail about projects frequently come from the *Ideas* section.

Fourth, encourage your staff to participate in training classes offered by the district in the use of the FrEd Mail system. These classes start at the very beginning and assume no telecommunications expertise in the participants.

Conclusion

With a bit of planning and encouragement, school staffs can make use of a computer-based, electronic mail system that links hundreds of educators across the country. All of the schools in Fullerton have the necessary computer resources to make use of this resource. Those teachers who have participated in using the FrEd Mail network have been excited by the experience, and their students have benefited. *Encourage your staff to participate!*

CMS -- COMPUTER MAIL SYSTEM
SCHOOL NET VERSION

Written by Tony Anderson
Fullerton School District

What is CMS?

CMS (Computer Mail System) is an electronic bulletin board system (BBS) that allows a computer to serve as an electronic message system. Originally written by Nick Sayer, CMS has been heavily modified by Al Rogers to provide an effective BBS for educational usage. CMS supports the transfer of electronic mail among other CMS systems tied together in a network, allowing teachers to reach other teachers easily and inexpensively for collaborative telecommunications projects.

What Hardware Does CMS Require?

To call a CMS board, one can use any computer that understands ASCII code, the system of encoding alphanumeric information that virtually all microcomputers use. One can communicate with a CMS board, for example, with an Apple II, Macintosh, IBM PC, Radio Shack Model 100, Amiga, Commodore, etc. To call a BBS, one needs to connect a modem to one's computer, and use a terminal program to control the modem. (Terminal programs control such functions as dialing the desired phone number, saving information from the BBS, hanging up the phone, etc.)

To set up a CMS BBS, one needs an Apple II series computer, a modem and serial card, a clock/calendar card, disk drives, a phone line and the CMS FrEd Mail software (available from CUE SoftSwap).

CMS Sections

Email - Electronic mail (Email) allows a user to send an electronic message to the electronic mail box of another user. A message is addressed to a user, has a subject heading, and then the body of the message. The recipient must call into the CMS FrEd Mail to see if he/she has messages, and then must tell the BBS to display the message.

A major feature of the FrEd Mail system is its ability to transfer electronic mail from one FrEd Mail system to another. To send a message from one BBS to another, the user must know the "path" over which the message must travel to reach its recipient. The path is determined by viewing the FrEd Mail network map usually posted in the Features section of FrEd Mail.

Another unique feature of CMS Email is the ability to attach documents and files to Email messages. Thus, a teacher can send a message to another teacher indicating that attached to the message is a FrEdWriter file full of pen pals letters to the other teacher's students. In this manner, CMS encourages the off line preparation of writing and other files for later transmittal to cooperating teachers on the network. Attached files can be any type of computer file, but are frequently word processing or database files.

Email access rights can be assigned by the system operator (sysop) for local mail only, or for intersystem mail access as well.

Bulletin Boards - Bulletin boards are areas in which users can post messages intended for all other users to see and perhaps respond to. A variety of bulletin board sections can be created, with different users having access to selected boards. Thus, interschool or interclass projects can be planned in which only selected teachers and/or students have access.

Features - The Features section is where one typically finds text information intended for reading. Such things as newsletters, system information, news of interest, exemplary student writing, and other kinds of text information are available.

Transfers - This section is where software is uploaded by users for sharing with others, and where the sysop makes software available to users for downloading to their systems. Some FrEd Mail systems do not have a transfer section.

Conferences/Mailing Lists - A mailing list of users can be developed by the sysop, and users can send messages to all people on the mailing list by addressing a message to the name of the mailing list. For example, if a mailing list is titled GRANT, and all people working on a specific grant wish to be able to communicate easily, any person can address a message to $GRANT, and each person in that list will receive a copy of the message in his/her mail box. These mailing lists are often called Conferences on CMS (or Digests in earlier versions of CMS).

Opinion Polls - Opinion polls can be posted by the sysop in which users can express their opinions and vote on subjects of interest. Each user is allowed to respond to a poll only one time. A poll can be scored by the sysop using a utility program that comes with the system.

$IDEAS - $IDEAS is a special conference used for sending mail throughout the CMS School Net network. Addressing a message to $IDEAS results in that message being forwarded to every CMS BBS in the School Net network throughout the country. $IDEAS is used primarily to seek collaborating educators for joint student/class projects . $IDEAS is also used as a discussion area for subjects of mutual interest across the country. $IDEAS is accessible to anyone with access rights set high enough by the sysop. Generally access is limited to educators.

$KIDWIRE - $KIDWIRE is a simulation of a newspaper press wire. It is used for sending student written articles throughout the network. Other students can use $KIDWIRE to retrieve writing from "foreign correspondents" in other areas of the country. An article addressed to $KIDWIRE is sent throughout the CMS School Net Network and is accessible to anyone with access rights high enough for $KIDWIRE access.

$CMS.SYSOPS - Another special CMS conference, this one is used by sysops within the School Net network to communicate. Bug reports, software updates and operating problems are often discussed on $CMS.SYSOPS. Only sysops have access to this conference.

Who Runs CMS BBS's?

CMS BBS's are run by a variety of educators across the country. Some are operated from the privacy of homes for the benefit of students in their vicinity, while others are run by school districts and county offices. TEC Centers, especially San Diego's, provided much support for the operation of the CMS School Net network prior to the recent budget cuts that closed the TECCs. Some CMS BBS operators have much computer experience, while others are teachers doing this in their spare time, relying upon the technical expertise of colleagues and friends.

What Kinds of Educational Projects Are Done on CMS?

Many projects on CMS focus on student writing. These include never ending stories done via bulletin board sections, riddle collections, proverb collections, magazine publication using materials gathered via the network, Santa letter writing, pen pals, use of Kidwire by journalism students, and dissemination of FrEdWriter prompted writing lessons. Other kinds of projects include a collection of student-written book reports gathered into an Appleworks database; the operation of a Kid Travel Agency in Nebraska, using student-written assessments of local attractions across the country; junior high students writing to sixth graders about their concerns and fears of moving on; technical help via online assistants (Mr. Byte); graphics projects using ASCII graphics as well as graphics created with graphics programs and shared via CMS; and brain teasers/trivia contests conducted online.

What is the Future of CMS?

The CMS FrEd Mail network is highly successful in involving educators across the country in telecommunications. A "critical mass" of users exists that makes joint projects successful.

STATE LICENSED VIDEO SERIES

AMERICA PAST, American History, 16/15 min. programs, Grades 8-12
ARTS ALIVE, Fine Arts, 13/15 min. programs, Grades 6-9
CONCEPTS IN SCIENCE SERIES, Science, Grades 9-12:
    Chemical Equilibrium, 6/10 min. programs
    Electricity, 6/10 min. programs
    Electrochemistry, 6/10 min. programs
    Electron Arrangement and Bonding, 6/10 min. programs
    Energy Flow, 6/10 min. programs
    Homeostasis, 6/10 min. programs
    The Mole Concept, 6/10 min. programs
    Nuclear Physics, 6/10 min. programs
    Organic Evolution, 6/10 min. programs
    Protein Synthesis, 6/10 min. programs
    Structure of the Atom, 6/10 min. programs
    Wave particle Duality, 6/10 min. programs
FINS, FEATHERS, AND FUR, Lang. Arts, 15/15 min. programs, Grades 1-3
GED SERIES, Reading/Writing/Math, 43/30 min. programs, Grades 9-12
GIVE AND TAKE, Economics, 12/15 min. programs, Grades 8-12
GLOBAL GEOGRAPHY, Social Science, 10/15 min. programs, Grades 4-8
IN OTHER WORDS, Language Arts, 12/15 min. programs, Grades 7-8
INSIDE/OUT, Health, 30/15 min. programs, Grades 4-6
IT FIGURES, Math, 28/15 min. programs, Grades 4-5
LANDSCAPE OF GEOMETRY, Math, 28/15 min. programs, Grade 5
MATHWORKS, Math, 28/15 min. programs, Grade 5
MEASUREMETRIC, Math, 12/15 min. programs, Grades 4-6
MORE BOOKS FROM COVER TO COVER, Lit., 16/15 min programs, Grades 5-6
NEWTON'S APPLE, Science, Grades 7-9:
    Series I, II, and III, 13/30 min. programs for each series
ON LOCATION, California History, 2/15 min. programs, Grade 4
ON THE LEVEL, Health, 12/15 min. series, Grades 7-12
SCHOOLING THE MICROCOMPUTER,
    Computer Science, Staff Development, 6/20 min. programs
SOLUTIONS UNLIMITED, Problem-Solving, 8 units, Grades 5-8
SOLVE IT, Math, 18/15 min. programs, Grade 6
TAX WHYS, Economics, 6/15 min. programs, Grades 9-12 (being revised)
TELETALES, Literature, 15/15 min. programs, Grades K-3
THINKABOUT, Critical Thinking, 60/15 min. programs, Grades 5-8
TOO MUCH, TOO LITTLE, Social Science, 1/20 min. program, Grades 9-12
TRADE-OFFS, Econcomics, 15/20 min. programs, Grades 4-8
U. S. CONSTITUTION, History/Soc. Studies, 6/30 min. programs, Grades 7-12
WATCH YOUR LANGUAGE, Vocabulary, 15/15 min. programs, Grades 7-12
WELL, WELL, WELL, Health, 15/15 min. programs, Grades 1-3
WRITER'S REALM, Language Arts, 15/15 min. programs, Grades 4-6
YOU CAN WRITE ANYTHING, Lang. Arts, 12/15 min. programs, Grades 3-6
YOUR CHILDREN, OUR CHILDREN, Teen/Adult Educ., 7/30 min. programs

CONSIDERATIONS IN USING VIDEO

The following information outlines essential steps to successful video in the classroom.

DECIDING ON A SERIES

1. Become familiar with the Curriculum Match section of the resource guides. Locate concepts that will be covered during the year and identify the video series which can be helpful. Use the Data Relator to find appropriate series. Once a series is identified, locate the Program Information section of the resource guide and read the program description for the series.

2. Obtain the series for classroom use. Is it a State Licensed series that all schools in California have rights to? Does your regional ITV agency have the series in its broadcast schedule? Is your school or district a member of that agency so that you can legally record the program and order teacher guides? An ITV program schedule provides this information and can be obtained from your regional ITV agency.

3. Secure a copy of the teacher's guide for each series to be used. Your regional ITV agency stocks these. There is a teacher's guide for all video series recommended in the resource guide.

4. Although individual programs in a series may be used in isolation, it is best to use programs as series or to choose a cluster of programs related to specific concepts.

WAYS OF USING VIDEO SERIES

1. DIRECT BROADCASTS

   Series can be used as direct broadcasts from the local PBS station. Generally one program is broadcast per week with one or more repeats at various times during that week. To use direct broadcasts effectively, the classroom schedule must be arranged to accomodate this time restriction.

2. VIDEO CASSETTES

   By using video cassettes, a series can be shown in the order and at the pace that is best for the students. A program can be stopped to allow for discussion or replayed for reinforcement. A section can be replayed in slow motion or freeze framed for closer examination. By using these capabilities of the VCR, instructional video becomes a real teaching tool.

   If a school or district wishes to develop its own video library, it may video tape State Licensed series directly off the air. (Check the taping rights of other ITV series with the regional ITV agency in our area.)

   Consider setting up a learning station for video. The television can be plugged into a listening center. With the use of headphones, a small group can watch a series independently with proper pre- and post-telecast activities prepared on work cards.

DEVELOPING A GOOD VIDEO LESSON

There are three essential parts to a good video lesson.

1. PRE-TELECAST ACTIVITIES

These activities prepare students for viewing a program by stimulating curiosity and focusingattention on important information in the program. Here are some suggestions:

- Use the pre-telecast suggestions given in the teacher's guide for the series.
- Develop specific questions and activities based on objectives teacher wishes to achieve.
- Divide the class into groups and ask each group to look for specific information on the program.
- Pique curiosity by showing an unusual object or picture or writing some words or phrases on the chalkboard related to the program.

2. VIDEO VIEWING

The teacher is as active a viewer as the students. Watch the students' expressions. Are they understanding? Are some vocabulary words difficult? Do they show particular interest in a certain section? If the program is on video cassette, make use of its special features to integrate the program into a total learning experience.

3. POST-TELECAST ACTIVITIES

This part of the lesson may take five minutes or many weeks depending on the nature of the program and what the teacher wishes to do with it. Here are some suggestions:

- Use the post-telecast suggestions given in the teacher's guide for the series.
- Relate the program to other classroom activities.
- Questions asked should require students to think. Avoid recall questions.
- Small group discussion, experiments and written assignments can vary in length.
- Allow students to review sections of a program on their own, if possible (try headphones.)

Be aware that producers of video programs pack a lot of information into a fifteen or twenty minute program. Don't let this deter you. Emphasize that part of the program which is most appropriate to your objectives. Of ourse, students will hear much more but your pre-telecast activity will focus them on what you, as the teacher, feel is most important for them to grasp from the program. You can even show the same program two or more time with different objectives for each viewing.

SURVIVAL GUIDE TO COMPUTER TERMINOLOGY

ASCII:	(pronounced "as-key") An acronym for American Standard Code for Information Interchange. ASCII is a coding standard used with 8-bit microprocessors. With all microcomputers that use ASCII, 01000001 equals the letter "A", 0110010 the number "2", 00101011 the "+" sign, etc. See *byte.*
Author Language:	A computer language designed to allow teachers to write computer-assisted instruction programs easily and without much programming experience.
Backup:	An extra copy of software, normally kept on file in case the original program is damaged or lost.
Binary Number System:	A number system using 1 and 0 to represent all numbers. Computers use binary numbers to store and manipulate information. A "1" means that the electrical current at that moment is high; a "0" means that the current is low.
Bit:	A short way of saying "binary digit". A bit is either a 1 or 0. Taken together, eight bits are used to represent a byte. See *byte*
Boot:	Short for "bootstrap" or "pulling oneself up by his/her bootstraps." This refers to loading a piece of software activated other pieces of software in order to bring the system into readiness for use. See *DOS*
Bug:	An error in a program that causes it not to work as intended.
Byte:	A sequence of bits that represents a single character. In most microcomputers, eight bits make up one byte. See *ASCII.*
CAI:	Computer Assisted Instruction. Use of computer to teach some subject to a human users in an interactive way.
Catalog:	A list of all files stored an a disk.
CD ROM	A Compact Disc used to store large amounts of digital information. See *WORM*
Character:	A letter, digit, or other symbol that is used to represent data. All symbols that appear on the

	computer keyboard are characters. A space is also a character.
Chip:	A common name for a small, flat piece of silicon upon which electronic circuits are etched.
Command:	A word or character that causes a computer to do something.
Computer:	An electronic device for performing programmed computations at high speed and with great accuracy.
Computer Program:	A series of commands, instructions, or statements put together in a way that tells a computer to do a specific thing or series of things. See *Software*
CPU:	Central Processing Unit. The "brains" of the computer. The CPU interprets instructions and carries them out.
Cursor:	A position indicator on the screen. It frequently is a flashing or nonflashing square or rectangle.
Data:	A general term meaning any and all information, facts, numbers, letters, and symbols that can be acted on or produced by a computer.
Data Base:	A collection of information organized in a form that can be processed by a computer system.
Data Base Management:	A software system for organizing, storing, retrieving, and modifying information in a data base.
Data Processing:	The handling of information
Debug:	To go through a computer program to remove mistakes.

Disk:	Short for "diskette". A round piece of magnetic-coated material used to store computer programs and data. Called "Floppy disks" even when enclosed in a hard case.
Disk Drive:	A devise that reads and records data on disks or diskettes. Hard Disk Drives can hold more information.
Documentation:	The instruction sheet or manual for a piece of hardware or software.
DOS:	Disk Operating System. On Apples and other computers, a special software program than controls all disk related activities. Versions include DOS 3.3 and ProDos.
Edit:	To change or modify: for example, to insert, remove, replace, or move text in a document.
Hardware:	The physical (mechanical and circuitry) parts of the computer (e.g., the CPU, chips, keyboard, disk drive) as opposed to software. See *Software*
Initialize:	To prepare a blank disk to receive information by dividing its surface into tracks and sectors.
Input:	Information entered into the computer, usually form the keyboard. Data also may be input from devices such as game paddles or a light pen.
Integrated Circuit:	A complete electrical circuit on a single chip and its package.
Interface:	A piece of hardware or software used to connect two or more devices (computers and peripherals) that otherwise cannot be used directly together (e.g., an interface between the computer and the disk drive).
Language:	A set of words and other symbols used to give instructions to a computer (e.g., BASIC, FORTRAN, LOGO, PASCAL, C).
Laser Disc:	An addressable storage device for video Holds large amounts of data and requires a player to retrieve.
Load:	To put data and/or programs into a computer from a disk. See *Boot.*
LOGO	A computer language developed at M.I.T. under the guidance of Seymour Pappert. Logo allows the user to create a set of commands that "teaches" the computer new capabilities.

Machine Language:	A computer language composed of binary numbers (1s and 0s). Machine language is the only language that the computer directly understands. Each type of computer has its own machine language. Also see *Bit* and *Byte*.
Memory:	Circuitry and devices that hold the binary 1s and 0s the computer can access. Examples are main memory (RAM and ROM), floppy disks, hard disks, and CD ROM.
Menu:	A list of choices presented by a program, usually on the display screen, from which the user can select.
Microcomputer:	A computer than has a single microprocessor or a small number of chips as its main central processing unit. See *CPU*.
Microprocessor:	The central processing unit of a computer (ususally in a single integrated circuit) that holds all the elements for manipulating data and performing arithmetic calculations.
Modem:	A device that allows a computer to talk to another computer over telephone lines. Because most microcomputers use ASCII code as the standard way to represents characters, different brands of microcomputers can talk to each other through modems. Short for modulator/demodulator.
Output:	Information or results that are generated by a computer while running a program and sent by the CPU to a peripheral device.
Peripheral:	Equipment that is external to the computer itself. The most common peripherals used with microcomputers are disk drives, printers, and modems.
Program:	(1) (noun) A list of instructions that tells a computer what to do and how to do it. See *Software*. (2) (verb) To prepare the list of instructions.
RAM:	Random-Access Memory. The main type of memory used in a microcomputer. The computer can find a piece of information in RAM in about the same time no matter where it is stored.
RAM Chips:	"RAM" Chips in a microcomputer are random-access memory chips in which all data is lost when the power is turned off. See *RAM*.

ROM Chips:	Read-Only Memory chips.These chips are random-access memory chips in which information is stored permanently and cannot be altered.
Run:	(1) To execute a program. (2) To load a program into main memory from a peripheral storage medium, such as a disk, and execute it.
Save:	To transfer information from main memory to a peripheral storage medium fo later use.
Software:	Computer programs or segments of programs. The term was coined to contrast with "hardware", the actual mechanical parts and circuitry of a computer.
Syntax Error:	An error in the way a command of information was given to the computer Each computer language has its own structure. If the structure is not followed, the programmer has made a syntax error.
Transistor:	Simplest computer pathway that carries, routes, magnifies, or stores charges of electricity.
Word Processor:	A program designed for the entry, manipulation, editing, and storage of text using a computer.
WORM:	Write Once, Read Many times. Refers to CD ROM, as one can only read from a CD ROM disc.
Write-enable Notch:	The square cutout in one edge of a disk's jacket that permits information to be written on the disk.
Write-protect:	To protect the information on a disk by covering the write-enable notch with a write-protect tab, preventing any new information from being written onto the disk.
Write-protect tab:	A small adhesive sticker used to write-protect a disk by covering the write-enable notch.

TEXTBOOK STUDY QUESTIONS

Chapter 1

1. Briefly describe the two paths that led to the modern era.
2. Discuss the four generations of the modern computer era.
3. What significance does the development of microcomputers have for computer use?

Chapter 2

1. What is the difference between hardware and software?
2. List and briefly explain the five basic hardware components of a computer system.
3. Distinguish between input and output devices and give examples of each.

Chapter 3

1. What is word processing? Give some examples of basic word processing features.
2. Summarize the benefits of word processing as reported by educators.
3. Describe possible uses of word processors in an elementary classroom.

Chapter 4

1. Explain the terms field, record, and file.
2. Discuss classroom applications of databases and filing systems.

Chapter 5

1. What is a spreadsheet?
2. Explain the advantages of using an electronic spreadsheet to record student grades.
3. Briefly describe the three categories of spreadsheet applications.
4. How might spreadsheets be used with students?

Chapter 6

1. Give several examples of utility programs and explain how they would be of use to a teacher.
2. How might students use utility software?
3. What word of caution do the authors issue at the end of this chapter?

Chapter 7

1. What are the advantages and disadvantages of integrated software programs?
2. Give examples of the following concepts of integrated software:
   two-function integration
   windows
   multifunction integration
3. Discuss educational applications of integrated programs, giving examples of both single-mode and integrated applications.

Chapter 8

1. Define computer-assisted instruction and discuss interactivity, flexibility, and meeting student needs in the CAI context.
2. List five general types of CAI software and tell the general purposes for each type. Cite examples where possible.

Chapter 9

1. Discuss three approaches to software evaluation and give the advantages and disadvantages of each approach.
2 Explain the differences between CAI-specific evaluation criteria and general criteria as used for evaluation of all educational materials.
3. Consider all of the CAI-specific and general criteria for evaluating software which were listed and select two or three which you believe to be most important in each category.

Chapter 10

1. Define CMI and give four examples of CMI applications.

Chapter 11

1. Discuss the following programming concepts:
   listing action steps in sequential order (storyboarding)
   flowcharting
   top-down design
   modularity
2. Define the following:
   low-level languages
      machine
      assembler
   high-level languages
      BASIC
      Logo
      FORTRAN
      COBOL
      PASCAL

Chapter 12

1. What is Logo?
2. Discuss these characteristics of Logo graphics:
   primitives
   procedural
   recursive
   interactive
   user-friendly
3. Why teach Logo?
4. Describe how a Logo "environment" could be different from a common classroom environment.

Chapter 13

1. Describe the fundamental aspects of BASIC. How is it different from Logo?
2. Describe what these BASIC commands do: HOME, PRINT, IF-THEN, GOTO, INPUT, and REM.
3. Why are BASIC sample programs presented in a top-down design?
4. Compare and contrast the advantages and disadvantages of BASIC.
5. How do the authors feel about the great BASIC debate?

Chapter 14

1. What are the advantages and disadvantages of Pascal? Why is it used in many secondary schools?
2. Describe COMAL, FORTRAN, and COBOL. What is the strength of each language and uses each most?
3. According to the authors, what are some reasons teachers would want to create their own software? What would some of the disadvantages be?
4. Describe the differences between an authoring language, an authoring system, and authoring aids.
5. Discuss the pros and cons of programming vs. authoring vs. buying packaged software.

Chapter 15

1. Compare the different definitions of computer literacy given in this chapter. What is the crux of their differences?
2. Describe the broad computer literacy topics presented by the authors.
3. What are the computer curriculum trends discussed?
4. Discuss the pros and cons of the two approaches to teaching computer literacy presented in this chapter.
5. What is the major goal of computer literacy?

Chapter 16

1. What is meant by the statement "...computers have entered the schools with less consideration than is given to next year's order for paper towels for the washrooms" on page 328?
2. Describe the stages through which computer education programs progress.
3. What do the authors suggest the emphasis should be in planning for computers in education?
4. Explain the five elements that must be considered in the planning process for computer implementation in schools.
5. Review the planning process steps from Computer Applications Planning. Why is each step suggested?

Chapter 17

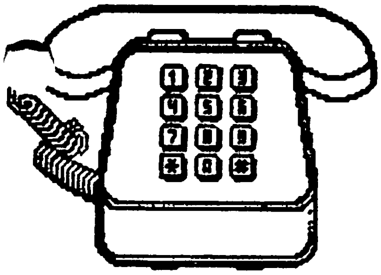
1. This chapter raises many social issues about the use of computers. What are some concerns?
2. What are the moral, legal, and financial ramifications of software piracy?
3. Describe the equity issues surrounding computer use.

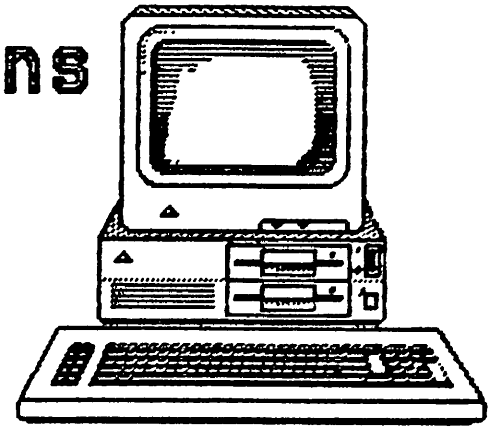
4. How do the authors respond to the concern of excessive reliance on computers?
5. How might the roles of teachers, parents, and students be altered by the use of computers in education?

Chapter 18

1. What is meant by the phrases computer as tool, computer as tutor, and computer as learner?
2. What trends in hardware do the authors discuss? Compare their ideas to what is widely available right now.
3. What trends in software do the authors discuss?
4. What factors might contribute to a decline in computer use?
5. What factors would contribute to an increase in computer use?

Telecommunications





Use the Microsoft Works telecommunications application to access the desired bulletin board system (BBS) through the computer, modem, and telephone line. You will be calling the Fullerton School District BBS to access the FrEdMAIL System.

Please follow these steps:
Click on Microsoft Works
Click on Communications
Communications Settings: click on OK
Captured Text: click on CANCEL
Communications: pull-down menu click on ECHO OFF
Communications: pull-down menu click on DIAL
Name: (you type)
FREDMAIL
Phone Number: (you type)
9-447-7496 (you don't need to type the dashes)
Click on DIAL
After you hear dialing, ringing, and a garbled sound of connection, press RETURN to login
Login: (you type)
KRAFFERT
Password: (you type)
EDELM415
Menu: (you type)
M and then press RETURN (for MAIL)
Menu:
A and then press RETURN (for EMAIL or ELECTRONIC MAIL)
Menu:
R and then press RETURN (for READ MESSAGES) Read Message 1.
Menu:
R and then press RETURN (for REPLY)
Use the delete key to erase the subject and type your first and last name
Quote original message: (you type)
NO and then press RETURN
Type your message to me. Press RETURN three times when you're done.
Menu:
S and then press RETURN (to SEND MESSAGE)
Send another message:
NO and then press RETURN
Menu:
Q and then press RETURN (to QUIT)
Menu:
Q and then press RETURN (to QUIT)
Menu:
G and then press RETURN (to say GOODBYE - QUIT and HANG UP)

1200 BD

Light - "
medium - "
Normal
Ultra Blk - heavy

LOGO PROJECT
EDELM 415 -- Fall 1992

Design one super procedure in Logo which has a minimum of three sub-procedures. For example, the super procedure LOGO.SAMPLE would have three sub-procedures: EASY, DOES, and IT (which may have other sub-procedures).

LOGO.SAMPLE	super procedure
EASY	sub-procedure
DOES	sub-procedure
IT	sub-procedure

All of the programming commands should be within the three (or more) sub procedures, so that all I see when I call up LOGO.SAMPLE are the three (or more) sub-procedures listed under it. (No CS or HT or any other commands should be visible in the super procedure).

Your Logo project will be evaluated on the following criteria:

*** Variety of commands used
(colors, arcs, setpos, fill, seth, rt, lt, bk, fd, pu, pd, pe, ht, etc)

*** Elaboration of commands
(program one object, then draw more of the same elsewhere)

*** Sophistication and complexity of commands
(use of repeats, procedures within procedures, beyond basic geometric shapes)

*** Originality and creativity

Turn in your DISKETTE with your procedures, your name, and an attached note which tells me the name of the procedure to call up in order to see your program.
Use the printing commands in the manual to print a PICTURE and the PROCEDURES to turn in with your DISK.
Turn in your assignment (DISKETTE, PICTURE, and PROCEDURES) in a self-addressed-stamped 9 x 12 envelope.

COURSE REQUIREMENTS
EDELM 415 -- Fall 1992
Instructor: Kevin Rafferty, M.S.

The following is a summary of the requirements for this course and the basis for determining grades:

Software Evaluation	10%
Midterm Exam	25%
Logo Project	15%
Curriculum Project	15%
Final Exam	25%
Other (Notebook, Modem, Class Participation)	10%

The above requirements must be met by all students in the class. Assignments must be turned in on time. Late work will result in a lower grade. All assignments must be received by the instructor before the final exam. Students opting for the "credit/no credit" grade should be aware that a grade of A or B will give credit in this course, a grade of C or lower will be a no credit grade. Attendance in this course is of vital importance. A student may miss one class with no excuse. The second class missed must be due to illness or a job related commitment and the instructor must be contacted prior to the class. For more than two missed classes, the final course grade will be lowered one grade for each class missed.

Home Phone: (714) 362-0669 (message machine attached)
Niguel Hills Middle School: (714) 831-3146
CSUF Department Phone: (714) 773-3411 (messages 8 a.m. to 5 p.m.)

COMPUTER LAB SCHEDULE
EC 066
FALL 1992

DATE:	DAY:	TIME:
SEPTEMBER 3	THURSDAY	7 - 10 PM
SEPTEMBER 10	THURSDAY	7 - 10 PM
SEPTEMBER 19	SATURDAY	9 AM - 6 PM
SEPTEMBER 24	THURSDAY	7 - 10 PM
OCTOBER 3	SATURDAY	9 AM - 6 PM
OCTOBER 8	THURSDAY	7 - 10 PM
OCTOBER 17	SATURDAY	9 AM - 6 PM
OCTOBER 22	THURSDAY	7 - 10 PM
OCTOBER 31	SATURDAY	9 AM - 6 PM
NOVEMBER 5	THURSDAY	7 - 10 PM
NOVEMBER 14	SATURDAY	9 AM - 6 PM
NOVEMBER 19	THURSDAY	7 - 10 PM
LAB WILL BE CLOSED DURING THANKSGIVING HOLIDAY RECESS		
DECEMBER 3	THURSDAY	7 - 10 PM
DECEMBER 10	THURSDAY	7 - 10 PM

LAB ASSISTANT: KEVIN RAFFERTY, M.S.
INSTRUCTOR, EDELM 415

STUDENTS:

PLEASE SIGN-UP FOR COMPUTER TIME IN THE LAB. SIGN-UP SHEETS ARE LOCATED ON TOP OF THE BOOKSHELF NEXT TO THE TELEVISION. IN THE EVENT THAT THE LAB IS FULL, COMPUTER TIME WILL BE GRANTED TO THOSE WHO SIGNED-UP FIRST.

CURRICULUM PROJECT
EDELM 415 -- Fall 1992
Teams of 2 or 3 Per Project

1. Choose one of the projects described below to do as a project:

   A. CURRICULUM UNIT using software introduced in class, personal software discoveries and the TIC project as resource materials. Feel free to integrate other technologies as well... camcorders, laser disks, video. etc.

   B. Design a LEARNING CENTER for use in the CSUF lab and/or your own classroom on one of the following topics: Telecommunications, FrEdWriter prompted writing, data base management, Macintosh and laser printer, or Logo.

   C. Design your own project with instructor approval.

2. Develop your project according to the following guidelines:

   A. Include a cover sheet to describe your project and why you chose it. The names of your team will be listed here.

   B. Select a minimum of eight curricula objectives and/or activities for your project. These objectives/activities should be related.

   C. Develop each objective under the following headings:
      1. Stating the learning.
      2. Describing teaching strategies.
      3. Describing instructional activities for children or adults.
      4. Giving examples of appropriate evaluation activities.
      5. Include important resources and support materials.

   D. Develop your activities so that a learner could easily progress from one to another (not necessarily in successive days).

   E. Include a summary sheet(s) describing the purpose and objectives of the various activities in your project and how it integrates into your curriculum.

CURRICULUM PROJECT (continued)

F. Your group will orally present your instructional project to the class (10 minutes).

3. Choose a project that you will use! There is no use spending this much time and effort on a project that will end up on the shelf or as landfill after this course is finished. This is an opportunity to think about and execute a classroom experience that is integrated with technology. This could be a unit that you have taught before or something brand new. The goal is to integrate technology into the curriculum. Each team member will receive a grade given to the project.

4. My personal prejudices include:

   ...a dislike of projects made up of sample dittos from workbooks with few original ideas (I grade on content, not volume).

   ...a dislike of activities that are all similar and do not address a variety of learning styles and types of learning.

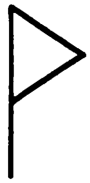
   ...a dislike of referring to resources and materials that are not appropriate or that have not been looked at by the writer.

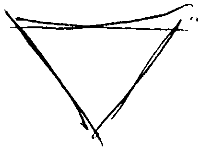
   ...an appreciation of a well organized, logical presentation of objectives and activities that allow people to learn in spite of themselves.

   ...an appreciation of an old idea or product used effectively in a new way.

   ...the excitement of a student telling me that they used something they did in class with their own students.

DRAW A FLAG. Use the triangle procedure to draw a flag. Then define TriFLAG as a new procedure.

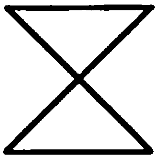




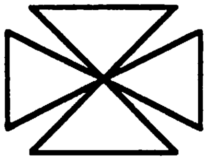
```
lt 30
repeat 3 [fd 60 rt 120]
```

DRAW AN HOURGLASS. Write a procedure to draw an hourglass.

```
repeat 2 [triangle lt 150]
```



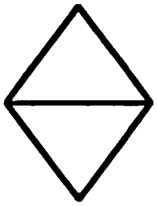
DRAW A WINDMILL. Using the hourglass procedure, write a procedure for a windmill.



```
repeat 4 [triangle lt 90]
```

HOW ABOUT A DIAMOND? Can you put two triangles together like this to make a diamond?

```
ferris wheel = repeat 12 [triangle]
```

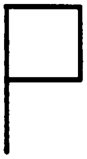


DRAW A FLAG. Write down the commands you would use to draw a flag and then write a procedure for drawing a flag.

FD ~~90~~ 60 REPEAT 3[RT 90 FD 30]

3 (RT 90
FD 30) = FLAG

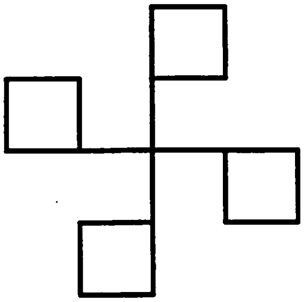
PU RT 90 BK 30 PD



DRAW A WINDMILL. Using the flag procedure you just defined, write a procedure for drawing a windmill.

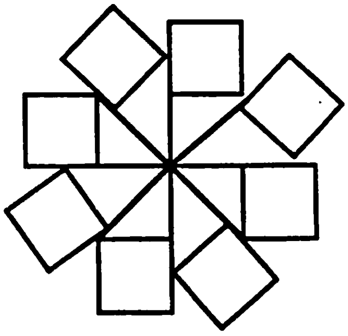
~~FD~~ RT

REPEAT 4 [FLAG RT 90]



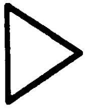
DRAW A PINWHEEL. Use the flag procedure or the windmill procedure to write a new procedure for a pinwheel.

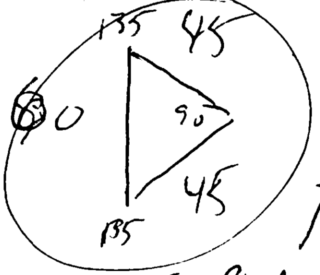
REPEAT 8 [FLAG RT 45]



DRAW A TRIANGLE. Write down the commands you would use to draw a triangle and then write a procedure for drawing a triangle. Use the REPEAT command.

fd 60 rt 135 fd 90 rt 135 fd 60



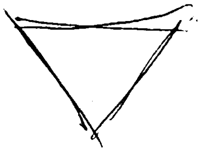


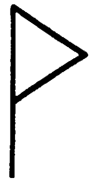
TRIANGLE=

LT 30

REPEAT 3 [FD 60 RT 120]

DRAW A FLAG. Use the triangle procedure to draw a flag. Then define TriFLAG as a new procedure.

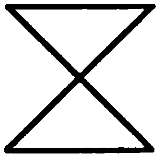




lt 30
repeat 3 [fd 60 rt 120]

DRAW AN HOURGLASS. Write a procedure to draw an hourglass.

repeat 2 [triangle lt 150]



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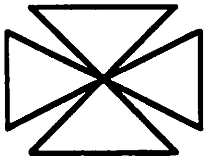
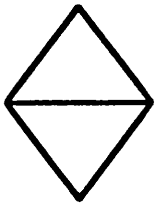


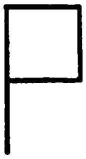
repeat 4 [triangle lt 90]

HOW ABOUT A DIAMOND? Can you put two triangles together like this to make a diamond?

ferris wheel = repeat 12 [triangle]



DRAW A FLAG. Write down the commands you would use to draw a flag and then write a procedure for drawing a flag.

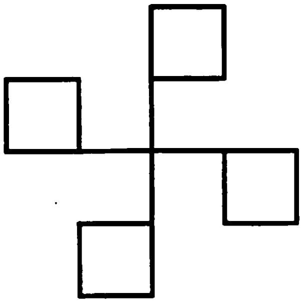


FD 60 REPEAT 3[RT 90 FD 30]

3 (RT 90 FD 30) = FLAG

PU RT 90 BK 30 PD

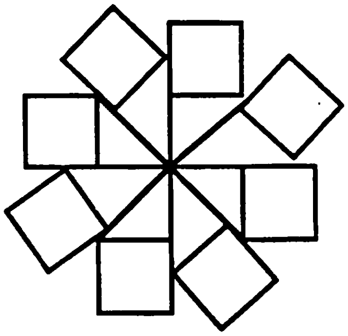
DRAW A WINDMILL. Using the flag procedure you just defined, write a procedure for drawing a windmill.



RT

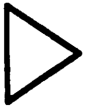
REPEAT 4 [FLAG RT 90]

DRAW A PINWHEEL. Use the flag procedure or the windmill procedure to write a new procedure for a pinwheel.

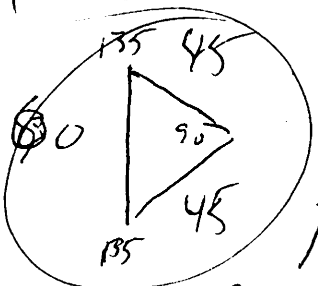


REPEAT 8 [FLAG RT 45]

DRAW A TRIANGLE. Write down the commands you would use to draw a triangle and then write a procedure for drawing a triangle. Use the REPEAT command.



fd 60 rt 135 fd 90 rt 135 fd 60



TRIANGLE=

LT 30

REPEAT 3 [FD 60 RT 120]

LOGO HELP SHEET

Booting up the Disk:

*After inserting the LOGO program disk and turning the computer on, at first "?" type:
Load "Useful.tools

*Take out the LOGO program disk and place your formatted data disk in the disk drive and type: *Setprefix "/Mylogo*

Modes:

*IMMEDIATE (?) -- question mark appears at the left hand side of the screen, waiting for commands. Logo performs these tasks immediately. Use this mode to practice and refine what you want to create. TAKE NOTES!

*PROCEDURAL (>) -- greater than sign appears at the left hand side of the screen. Use this mode ONLY when you are ready to TEACH Logo something you already know how to do. Logo will NOT move in this mode. Type *To* with a procedure name to enter procedural mode and *End* to exit procedural mode.

*EDIT MODE -- edit mode is for correcting already defined procedures. You can access it when you are in the immediate mode. Type *Ed "name of your procedure* and you can make corrections, insertions, and deletions. Note exit commands at the bottom of the Edit Mode screen.

Logo Commands

an abridged listing

ANGLE

Command	**Alternative**	**Description**
ARCLEFT RADIUS	ARCL	Turtle draws arc to the left according to two (2) inputs. *Example:* ARCL 50 90 You must load USEFUL.TOOLS or have the procedure in memory to use this command.
ARCRIGHT	ARCR	Turtle draws arc to the right according to two (2) inputs. *Example:* ARCR 40 120 You must load USEFUL.TOOLS or have the procedure in memory to use this command.
BACK	BK	Moves the turtle backwards.
CIRCLELEFT RADIUS	CIRCLEL	Turtle draws the circle to the left according to input. *Example:* CIRCLEL 25 You must load USEFUL.TOOLS or have the procedure in memory to use this command.
CIRCLERIGHT	CIRCLER	Turtle draws the circle to the right according to input. *Example:* CIRCLER 33 You must load USEFUL.TOOLS or have the procedure in memory to use this command.
CLEARSCREEN	CS	Erase entire screen and moves the turtle to the center.
FILL		Fills the shape enclosing the turtle with the color. If the turtle is not enclosed, the background is filled. Must fill with outlined color.
FORWARD	FD	Moves turtle forward.
HEADING		Logo will reply with the direction the turtle is facing.
HIDETURTLE	HT	Turtle disappears from the screen.
HOME	HOME	Moves the turtle to [0 0] and sets the heading to 0 (the turtle will be pointing towards the top of the screen).
LEFT	LT	The turtle will move to the left the amount of degrees entered *Example:* LT 90
PENDOWN	PD	Pen will draw while in this command wherever the turtle goes.
PENERASE	PE	Pen will erase while in this command wherever the turlte goes.
PENUP	PU	Pen will not draw while in this command wherever the turtle goes.
POS		Logo will respond with the x and y coordinates of the turtle.
REPEAT	REPEAT	Instructions are to be executed more than once. *Example:* REPEAT 4 [FD 9 RT 90]
SETHEADING	SETH	Turtle faces specific direction indicated in SETH degrees. *Example:* SETH 90 (turtle turns 90 degrees to the right).
SETH TOWARDS		Causes the turtle to point in a certain direction using the x and y coordinates, but does not cause the turtle to move. *Example:* SETHTOWARDS [50 50] causes the turtle to face in a 45 degree angle to the right.
SETBG	SETBG	Used with a number (*example:* SETBG 3), causes the background to change color. 0=Black 1=White 2=Green 3=Violet 4=Orange 5=Blue
SETPC	SETPC	Used with a number (*example:* SETPC 2), causes the turtle's pen color to change. 0=Black 1=White 2=Green 3=Violet 4=Orange 5=Blue
SETPOSITION	SETPOS	Moves a turtle to a location indicated by x and y coordinates. Draws a line as it moves, unless pen is up (PU). *Example:* SETPOS [30 70]
SHOWTURTLE	ST	Makes the turtle appear on the screen.
FULLSCREEN	(CTRL) L	The screen shows only graphics.
SPLITSCREEN	(CTRL) S	Top 20 lines of the screen display graphics and the bottom 4 are for text.
TEXTSCREEN	(CTRL) T	The screen shows only text.

SAVING PROCEDURES TO A DISK

Once a disk has been formatted, placed in the disk drive, and you have typed: *Setprefix "/mylogo* you can save defined procedures to your disk by typing: ***Save*** "name of your procedure.

LOADING PROCEDURES FROM A DISK

To load a procedure that has been saved on your disk, make sure your data disk is in the disk drive, that you have typed: *Setprefix "/mylogo* and type: ***Load*** "name of your procedure.

ERASING A PROCEDURE FROM A DISK

To erase a procedure from your data disk, make sure your data disk is in the disk drive, that you have typed: *Setprefix "/mylogo* and type: ***Erasefile*** "name of your procedure.

ERASING A PROCEDURE FROM THE COMPUTER'S MEMORY

To erase a procedure from the computer's memory (RAM), type: ***Er*** "name of your procedure.

PRINTING LOGO PROCEDURES

There are two ways of printing out your procedures for Logo. The first includes typing in a print procedure called "Dump." This prints out all of your procedures automatically, but also includes an unnecessary printout of useful.tools. The second way to print out your procedures is manually. You specify which of your procedures to print out, so the computer doesn't end up printing all of the useful.tools. You must be careful, however, to specify all of your subprocedures within your program when using the manual method.

1. Using the Dump Procedure

In Immediate Mode, type the following program EXACTLY how it appears (although caps aren't necessary):

```
TO DUMP :FILE
DRIBBLE 1
POFILE :FILE
NODRIBBLE
END
```

When Logo returns with "Dump Defined," make sure your printer is on and type:

```
DUMP "name of your super procedure
```

2. Using PO

To print out your super procedure and subprocedures separately (manually), make sure your printer is on, and in Immediate Mode type:

```
DRIBBLE 1
```

Follow that command with

```
PO "name of your super procedure
PO "name of your first subprocedure
```

Continue with PO "and the names of the subprocedures you need printed out. This method eliminates the unnecessary printout of useful.tools, but requires that you keep track of the procedures you list in your program.

To end, type:

```
NODRIBBLE
```

to stop the computer from sending printing commands to the printer.

PRINTING LOGO PICTURES

To print your Logo picture, make sure your picture is on your computer screen, your printer is on, and type:

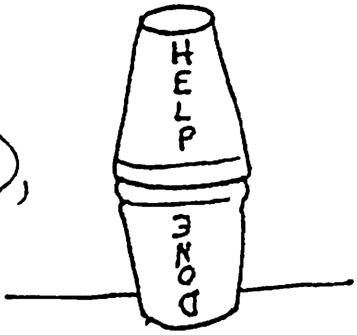
```
PRINTPIC 1
```

Ta-dah! Note that Logo does not print in color, that colors are designated by different textured lines, and that white on the screen prints black on the paper, and black on the screen prints white on the paper! Loco? No, still Logo. Remember the turtle's perspective. We humans are fortunate to see in color.

Visicup - a Teacher's Aide

An organized way to meet the student's needs for attention in the computer lab and guarantee that every child will recieve the teacher's input.

Materials - 2 styrofoam cups, 2 pieces of construction paper (contrasting colors), marker and sand or small stones.



Directions -

1. Tape a different colored paper around outside of each cup.
2. Write 'HELP' from bottom to top of one cup and 'DONE' in same manner on the other cup.
3. Fill one cup $\frac{1}{3}$ full of sand or small pebbles to give visicup weight and stability.
4. Tape cups together.
5. Tell students to turn 'help' side up when they need assistance and 'done' when their work needs checking.

- Georgia Homer, Springdale, Pa.
Teaching AND Computers MAY/June '86

INSTRUCTIONAL MATERIALS CENTER
Capistrano Unified School District
San Juan Capistrano, California

COMPUTER FOR TEACHERS: SEPTEMBER NOTES

***** 8-31 NOTES: *****

presentation: telecommunications/Kurshan article #2 - 10th meeting

Computer uses:

TOOLS:
database (grade book)
multiple choice tests
word search (crossword puzzles)
word processing
readability levels
Cloze testing
artwork
music
spreadsheets
graphing/charts

TUTOR:
Drill+Practice
Problem solving
Tutorials
Simulations

TUTEE
Programming (where we teach the computer); we'll use LOGO.

HARDWARE/SOFTWARE:
Input/Output devices:
Monitor (output)
Keyboard (input)
Printer (output)
disk drives (both)

CPUs & slots:
slot⑥ = 5 1/4 inch disk drive
slot⑤ = 3 1/2 inch disk drive

DISKS:
3 1/2 disk holds more info than 5 1/4, about 400 pages of stuff versus 70-80 pages on 5 1/4 disks. "Only two fingers needed handle disks," no need to manhandle it, per Rafferty.
5 1/4 notch open = read/write, notice covered = write protected
3 1/2 window open = write protected, windows closed = read/write
disk care: keeps disks away from anything magnetic or metal. Keep out of sunlight, heat, water. Power needs to be on, to get 3 1/2 disk out, use paper clip in center of button to remove disk in power out situation. Red light on on disk drive = don't touch anything.

CPU:
control unit & arithmetic logic unit; control = traffic cop, manages and directs everything that goes on in computer; arithmetic = anything with numbers and logical operations.

Types of memory:
RAM = random access memory - the work is gone when power is removed;
ROM = read only memory - basic computer functions, built-in, it cannot be altered; the BASIC language is built into the system ROM.
control panel: open apple-control-escape
REBOOTING:
cold boot - actually turning on the computer

warm boot - new disk, open apple-control-reset
Apple][gs = DOS 3.3 or ProDOS
IBM = PCDOS or MSDOS
Macintosh = mac operating system

Shut down procedure:
take out disk
turn off computer
turn off monitor
turn off printer
return disks to teacher
be sure area is clean push inyour chair

***** 9-14 NOTES: *****

Tonight's schedule:
questions/review
hardware (chap 2)
CAI (chap 8)
CMI (chap 10)
evaluating software;

midterm-scantron; final-bluebook.

review . . .
Mouse= watch for kids turning their mouses over and removing the little "mouse balls".

CHAPTER TWO: REVIEW:
Input/Output devices. CPU, types of memory (RAM/ROM), types of input devices: keyboards, secondary input devices: lightpen, mouse, joystick, touch screen, optical scanner.
Output devices: monitor, printer, different types: (paper=hardcopy) dot-matrix, daisy wheel, inkjet, thermal printer, laser printer; lab dot-matrix printers: NLQ (near letter quality),

```
[****] [ON/OFF]
[****] [SELECT]
[**  ] [PRNT Q]
```
print quality means = [**] = low, [**] = med, [****] = high.
secondary output devices: plotters, and voice synths.
Secondary storage devices: cassette tape drives, floppy disk drive, hard disk, laser/optical disks, modems.

SOFTWARE:

System utilities (format, copy, etc.) often duplicated with program utilities, built-in.

CAI: CHAPTER 8 (COMPUTER AIDED-INSTRUCTION)
characteristics (general)
interactivity
flexibility

adaptability (self-paced)

Evolution of CAI (1950, combat fighter training, '77 Intel)

Types of CAI:

- drill & practice: helps use and remember previously taught repetitive.
- tutorial: new material, interactive, science, tool software (1-2-3)
- simulations: chem lab, natural/social sciences, teacher directed de-briefing
- instructional games: goal oriented
- problem solving: motive/prob recognition, within corriculum this is the hardest to fit.

3 new CAI trends:

1. multimedia
2. Interactive video instruction (IVI), foriegn language, re-purposing
3. Intelligent CAI (ICAI), ITS, expertise, tutor student module, artificial intelligence assisted.

research:

-effective overlongand short term
- highest gains among elementary
- best inmath and foreign lang.
- improves retention of learning
- decreases learning time
- students react favorably

BUT

- not likely to develop general problem solving skills
- many studies before micros
- early studies' methodology suspect
- much "research" actually anecdotal

ADVICE:

be cautious about findings, still need teachers, integrate...

OTA finding 1989, 1/3 had less than ten hours on training, focus on computer use, not computer instruction:
but: findings show, students learn more & retain more,
less instructional time, like class more, more positive attitude about school in general and computers themselves.

CMI: COMPUTER MANAGED INSTRUCTION (CHAP 10):

computer helping the teacher run the classroom. computer help re: individualized instruction, teacher tells computer about student A needs X and Y requirements, computer doles out testing at student's pace to meet specified goal.
testing, monitoring, drills
concerns: cost, complexity of setup, decreased student/teacher interaction, questioned effectiveness.

greatest advantage: record keeping capability... track and evalute student progress, and test analysis, if you have the time to learn it, it frees up more time.

SOFTWARE EVALUATION: CAI programs: can be bulleted:
general info:
Name of prog
publisher of prog
date of pub
hardware neeeded to utilize programs
sources to obtain prog:
general descrip of prog:
personal response to prog:(paragraph)
one or more paragraph per below (6 minimum)
1. educational goals
2. student role
3. teacher role
4. program
5. content
6. evaluation data.

***** 9/21 NOTES: *****

Chapter One Presentation:
History of computers

Abacus - chinese 3,000 ago
Pascal - early adding machine, 1650, tooth and gear
Leibnitz, add/subtract/mult/divide
Jicard - automated loom, inventor of the "data card"
Charles Babbage - 1850, analytical engine - capable of accepting large amounts of info - father of modern data producing.
Herman Holerath, 1890, major worries, it took seven years to do 1880 census, gov't paniced looked for some to do it in less time, using Gicard's card idea to count census
James Powers, 1910, ten-years later added
Holerath --> IBM
Powers --> Unisys
John Atanasoff, Clifford Berry---> 1940s computer, Mark I, founded by IBM; Computers did in two-minutes what would have taken 20-hours, WWII required targeting/navigation computers, ENIAC, EDVAC---special/single program computers, Von Neuman (EDVAC) had Storage program control
1st generation 1940-50, vacumm tube computer, large expensive
2nd generation, during the 50s, transistor---less power (electricity), small form.
3rd generation, 60s= IC, integrated circuits, could perform business and scientific,
4th and current generation, 70s = micro-electronics, many ICs in one chip - intro of micro-systems - made "computer" power accessible to the individual.

```
           /\      < SIZE + >
Graph:    /  \      \ COST /
         /    \      \    /
time |  /      \      \  /
     V <  POWER >      \/
```

5th generation = artificial intelligence.

analogy of computers with automobile industry: if advance were parallel = Rolls Royce advanced with ocmputers gas mileage would be 1,000 per gallon and cost a couple of bucks.

Chapter 6: Utility Software -
help in the classroom

Graphics,
print graphics
presentation graphics (use of slides and LCD read-out)

(NOTE: USE OVERHEAD PRESENTATION WITH FONTS FOR TELECOMM PRESENTATION IN CLASS !!!)

classroom publishing,
newsletter/small pamphlets, difference between this and DTP=cost (150.00 or less) and DTP assumes laser printing

telecommunications:
modems, conferencing--> real-time forum; multiuser/multitasking with PC server (LAN); E-mail; Bulletin Boards

Implimentation suggestions:
tie to specific need
most effective need (not arbitrary)
teacher must be commited to the idea
teacher should be open to inquiries
should be acquainted before meaningful dialog

Support Tools

Colvin Article: User friendliness (icons), flexibility, menu bar, new page of information, other ways to input (mouse, cursor keys, etc.) Old style required knowledge of computer technology in the way of kids using computer . .. Compuserve, National Geographic idea exchange.

***** 9-28 NOTES: *****

good ed software: Oregon Trail, EarthQuest.

TIC Project:
state document on ed software available (technology in the curriculum) and reviews (plus videos available) as of 1988, desirable to exemplory (available at Orange County Dept. of Ed.)

Ideally, use TIC, talk to other teachers, computer publications, and review it yourself. Methodology: 3x, twice as a student and once as teacher; as teacher look for teacher things, once as good student (how far), once as bad student (can you hang it up?).

MECC Software (Minn. Ed. Computing Corporation) - "Oregon Trail" a complete package;

EISI Ed. Soft. Pub., (ed software source), Los Gatos, CA, 800-955-5570

Educational Resources, 800-624-2926

CUE (Computer Using Educators), see bulletin board.
4-6 pm, Oct 8, Spurgeon Intermediate, 2701 W. 5th St. SNAN (5th&Fairview) more info Pat Lawrence 971-3501.
Integrated Software (chapter 7)

make do, reenter data, share the data file, transform the file or integrated applications---pioneered by Lotus, eg., Lotus 1-2-3 (basically a spreadsheet with database management and graphics capabilities; concepts of integrated software (simple integration . . . Windows, Complex integration . . . Appleworks ($300.00 cost)

notes for october:

***** NOTES 10/05: *****

Software Evaluation Chapter 9:
technical/visual excellent/actual programming
PageDown technology --- moving old books to new medium.; need evaluation of software, school should have computer expert, need parental support---find out objectives. Professional reviews: classroom computer learning, Only the Best, MicroSift, EPIE (Ed Product Info Exchange), TEC (from Cal State Dept of Ed),

Cautions about software reviews:
objectivity in review
time lag of software appearance and review
meeting specific goals of educator

student field tests: error-protection

Gagny and Brits: 9 evaluation criterion!!!

evaluation form listed in book: pp. 224-225
good sound educational principles and proper reinforcements

WordProcessing Chapter 3:

ex.: AppleWorks
features: fonts, wordwrap, search and replace, move, copy,

pre-writing, spell-check, punctuation and style, thesaurus.

Benefits: develops positive attitude, more time on content versus corrections, style improved, reduce over-emphasis on mechanics, neat appearance, lack actual revision. Generally student will take more risks with their writing, it's easier to read, really simplifies the correction process.

"keyboarding": drill on using the keyboard not necessarily useful---lack of use reverts to lower level---just let them use applications rather than straight drilling.

***** NOTES 10/12: *****

Computer Languages (chapter 11):

tutee part of computer - teaching the computer how to do it
reasons:
hardware with no software
problem solving
cooperative learning
students curiosity
best way to show control over computers

learning a program does not meaning learning to program

concepts of control
problem analysis/algorithm development
structure
top-down (whole picture and moves to its parts)
modulatity (extension of above, each mod . . .)
limited constructs (sequence, selection, iteration)
co-documentation

BASIC programming (chapter 13)
(beginner's all-purpose symbolic instruction code)

ease-of-use
line number oriented lang
run on any microcomputer
most school microcomputer

dis:
easy not= best
review!!!!
1965-Dartmouth

Curriculum Project:
use software/class/self/TIC - as resource combined with VCR/video etc., 8 different lessons using computers or technology to teach a subject. see CURRICULUM PROJECT (2.C.), list - Grand Design, objective of each of the eight lessons, and eight pages of lessons.

Word Processing and prompted Writing:
Using FrEdWriter for prompted Writing.

notes for october:

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***** NOTES 10/26: *****

The tool for the professional teachers:
David A. Dockterman article from :
Great Teaching in the One-Computer Classroom
Tom Snyder Productions, Inc.,
Educational Software
90 Sherman Street,
Cambridge, MA 02140
(617) 876-4433

as admin tool:
as instructional aid:
only as good as the instructor

electronic grade book - "Grade Busters 1-2-3"; ave. mid. semester, individual students, more time teaching;

information management - less writing, copying to different media (dittos, etc)

letter writing - to all students, not just "bad" kids, improves parent communications

use of TimeLiner

social studies toolkits: our world, our nation - access to databases - not "overwhelming", with databases can create "Oh wow, graphics!", outliner program/hypertext organizing tasks.

INFO RE: FINAL EXAM:
essay style/cumulative - re: general information (eg., how to use TimeLine)

LOGO - COMPUTER LANGUAGE
hist/philos: = a language, diff. Logo isn't wired into computer (not in ROM), disk language. Great word for "thought", MIT creation, Semour Papert (Piaget influenced), teaching to learn with/by the computer. Logo can be used by Pre-Schoolers - through College students, graphics capability, but good word processing capabilities (LOGO-writer). Cursor = triangle called the "turtle" which was called "an object to think with" - Everything you do will be from the turtle's perspective, eg., on the tip of the space.

Compare/contrasts = usuage what goes on with computers in schools ---> CAI, computer aided instruction, the computer programs the child. Papert thought that child ought to program the computer, learner is active, self-directing, and personally purposeful. Learning is a skill, thinking about one's own thinking --- children generally have a resistence to self-debugging, LOGO forces debugging, must become good at it. Trad. errors=bad, in LOGO errors=good, it benefits us in reality, lead us to study what happened, to understand what went wrong, ultimately to fix it. To become excellent problem solvers - LOGO makes for effective/precise thinking. body-spacial relationships, left/right descrimination, aids visualizing, sequential thinking, planning, analysizing, finding and fixing error (debugging), teaching geometry, linking with Bloom's taxonomy (analysis, synthesis and evaluation); great for cooperative learning - team them for LOGO.

LOGO commands:
Modes:
Immediate: prompt = ?
memory only mode - take notes, nothing is saved to a file
Procedure: prompt = >
compiler-type, programming. Nothing is done until program is "end"ed. 1. type : TO [name of procedure] 2. enter design commands 3. type: END

Edit: use this mode to correct an mistakes in your procedure. 1. Type: Ed [name of procedure] 2. type "open-apple"-A (to accept)

commands
FD #
BK #
RT #
LT #
HOME (dead center middle of the screen - pointing straight up)
PD "pen-down"
PE "pen-erase"
PU "pen-up"
CS "clear screen"

notes for November:

***** NOTES 11/02: *****

Spreadsheets:

computers for programmers

businesses - impact - Visicalc '79 - rows&columns = spreadsheet; educators = gradebook; numeric info - cell oriented; letter=lables?. EduCalc - simple spreadsheet (by the same folks who brought Friendly Filer).

Teacher's utilities:

The teacher's tool kit from Hi-Tech of Santa Cruz (about $60).

***** NOTES 11/09: *****

Schrum article

1. tied to specific curriculum task
2. must be the most effective
3. participants should know something about each other before event.
4. teacher commitment
5. willingness to share experience

examples of use:

1. science lesson - planting simulation (?)
2. language arts lesson: matching younger students and older reluctant writers - younger ask questions about great pumpkin, older responded - real time

4 things you need to have to telecommunicate:

1. need to have a computer
2. need to have a telephone line
3. need to have a modem
4. need to have telecommunications software

USING LOGO:

```
?LOAD "USEFUL.TOOLS
?
put in your data disk
?SETPREFIX "/MYLOGO

?
?CATALOG
?LOAD "NOV.2
```

***** NOTES 11/16: *****

Databases chapter 4

Desktop publishing (?)

Polin article:
reasons why teachers weren't using computers:
lack of sufficient equipment
lack of planning time
---need of patience to develop computer-teacher skills

Sheingold